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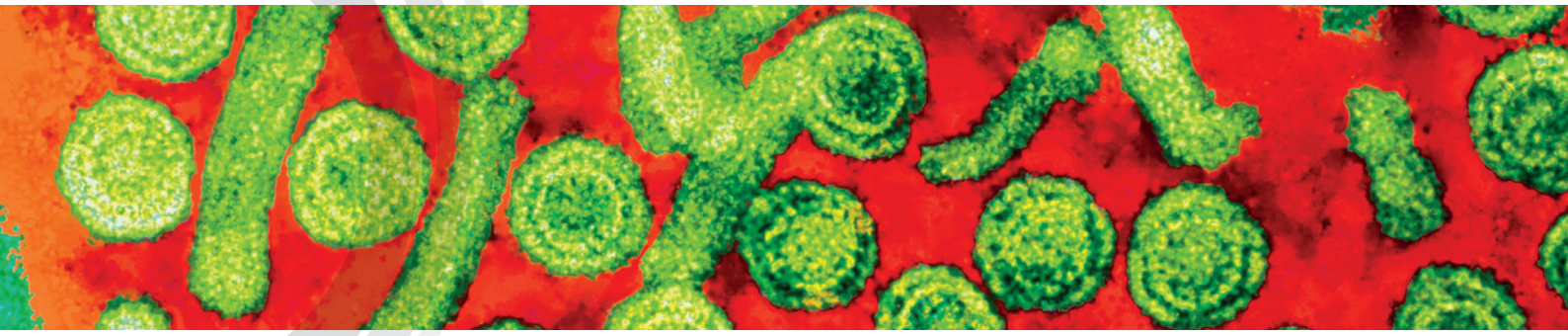
SURVEILLANCE REPORT



Hepatitis B and C surveillance in Europe

2006–2011

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This report of the European Centre for Disease Prevention and Control (ECDC) was produced by Erika Duffell and Marita van de Laar.

Contributing authors:
Andrew J. Amato-Gauci, Denis Coulombier, Lucia Pastore Celentano, Philip Zucs.

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Contents

Tables and figures

Abbreviations

ECDC	European Centre for Disease Prevention and Control
EEA	European Economic Area
EU	European Union
HBV	Hepatitis B virus
HCV	Hepatitis C virus
HIV	Human immunodeficiency virus
MSM	Men who have sex with men
TESSy	The European Surveillance System

Summary

Summary

This is the first report from the European Centre for Disease Prevention and Control (ECDC) on the enhanced surveillance of hepatitis B and C viral infections. It aims to describe basic trends and epidemiological features of both diseases across countries in the European Union and European Economic Area (EU/EEA) for the years 2006 to 2011. Enhanced surveillance of hepatitis B and C in Europe provides important information to help monitor the distribution of the diseases and to evaluate the public health response to control the transmission of infections.

Data were collected on a range of demographic and specific epidemiological variables for both infections. Data completeness varied considerably across variables and countries, and a small proportion of countries were not able to provide data as defined by the new EU 2012 case definitions[1]. Nevertheless, this first data collection is an important step towards the harmonisation of hepatitis B and C surveillance across countries to enable a better understanding of the distribution of these infections across Europe.

The data collected, using the new EU 2012 case definition for hepatitis B, includes both acute and chronic infections. Previous EU case definitions defined only acute cases, and still in many countries, only acute hepatitis B is notifiable nationally.

In 2011, 17 025 cases of hepatitis B were reported from 28 EU/EEA Member States; 2 812 (16.5%) of these cases were reported as acute, 11 557 (67.9%) of cases were chronic and 2 312 (13.6%) were classified as 'unknown'. Rates in acute cases declined over time which is likely to be related to vaccination programmes. Rates of chronic infection varied widely between countries and aside from differences in surveillance systems they are most likely attributed to differential levels of screening and diagnostic testing. Hepatitis B was more often reported in men than women, with an overall rate of 4.1 cases per 100 000 for men and 2.7 for women. The most affected age group were those between 25 and 34 years old, accounting for 32.9% of cases, followed by those younger than 25 years (16.7%).

For hepatitis B, there was a striking difference between reported modes of transmission by disease status. For acute infection, heterosexual transmission and nosocomial transmission were the most commonly reported routes of transmission. For chronic infections, mother-to-child transmission was the most common reported transmission route, most likely due to a high proportion of 'imported' cases.

In terms of absolute numbers, hepatitis C represents a greater disease burden than hepatitis B.

In 2011, 29 896 cases of hepatitis C were reported from 26 EU/EEA Member States, representing an overall notification rate of 7.8 cases per 100 000 population. Of these cases, 398 cases (1.3%) were reported as 'acute', 2 913 (9.7%) as 'chronic' and 24 337 (81.4%) as 'unknown'. Although some countries only report acute viral hepatitis C cases, the majority of reported cases were classified as chronic or 'unknown'. In countries able to report all viral hepatitis C cases, it is likely that most of these 'unknown' cases are chronic cases as acute hepatitis C is difficult to diagnose clinically or serologically. There was marked variation between countries in the reported cases of acute, chronic or 'unknown' hepatitis C. This variation is related to several factors including differences in surveillance systems as well as variations in national screening and testing practices across countries.

The most affected age group for the reported hepatitis C cases were those between 25 and 34 years old which account for 28.2% of the total number of cases in 2011. There were more male cases reported than female cases resulting in a male-to-female rate ratio of 2:1. Injecting drug use was the most commonly reported route of transmission.

The enhanced surveillance of hepatitis B and C across Europe has highlighted the significant burden of these infections as well as considerable differences in the epidemiology of these infections. The comparability of data across countries is impaired by differences in surveillance systems. Improvements in the quality and completeness of the data over time will further improve the usefulness of the data.

1 Decision No 2012/506/EU: Commission Implementing Decision of 8 August 2012 amending Decision 2002/253/EC laying down case definitions for reporting communicable diseases to the Community network under Decision No 2119/98/EC of the European Parliament and of the Council (notified under document C(2012) 5538)

1. Introduction

1. Introduction

ECDC started to coordinate the enhanced surveillance for hepatitis B and C in 2011. The Centre strives to attain a high quality of standardised hepatitis surveillance data from the 30 countries of the European Union (EU) and the European Economic Area (EEA). Surveillance at the EU level is facilitated by the European Surveillance System (TESSy), a web-based system which is designed to offer Member States a single entry point for data submission and retrieval for all communicable diseases under EU surveillance, including hepatitis B and C infections. Member States are expected to submit data related to all variables in the dataset, if available and relevant, as stipulated by Decision 2119/98/EC of the European Commission. The collection of data through TESSy helps in tackling the heterogeneity in surveillance systems across Member States by making surveillance data comparable so that they can be shared and analysed across Europe in a meaningful way.

A report on surveillance systems and hepatitis B virus (HBV) and hepatitis C virus (HCV) prevention programmes revealed that surveillance systems for HBV and HCV exist in all EU/EEA countries, but there are great differences between these systems in terms of what data is collected and how this is undertaken[1]. These results confirmed the findings of a previous survey of the published literature which found marked variation in the case definitions in use, and an inability for many countries to distinguish between acute and chronic cases of HBV and HCV [2].

The aim of enhanced surveillance is to improve the epidemiological understanding of acute and chronic hepatitis infections across the EU. The enhanced surveillance programme for hepatitis B and C includes revised case definitions for both infections (see Annex 1). For hepatitis B, the case definition includes both acute and chronic cases and a greater range of serological tests. For hepatitis C, the revised case definition excludes any resolved cases and includes new serological test for hepatitis C antigen (HCV core). These revised (and broadened) case definitions provide greater flexibility and inclusivity for capturing cases. The differentiation between acute and chronic infections, which is essential for understanding the epidemiology, is implemented through the StageHEP variable (see Annex 2).

This ECDC surveillance report on hepatitis B and C covers the years 2006 to 2011 and aims to describe basic trends and epidemiological features of these two diseases. The data are presented in two disease-specific chapters.

2. Data collection and presentation

2. Data collection and presentation

2.1. Reporting in the European Surveillance System for hepatitis B and C surveillance

In the EU/EEA countries, the nominated national contact points for hepatitis B and C surveillance report data by direct upload into TESSy. A set of automated validation rules verifies the data during upload to improve data quality. Two types of data can be submitted for both hepatitis B and C: case-based and aggregated data. The European Surveillance System aims to include case-based reports for each disease, but aggregated data will also be accepted until all Member States are in a position to comply with the EU standard of case-based reporting.

The hepatitis B and C dataset consists of the common variable dataset for reporting all diseases, combined with an enhanced dataset specific to hepatitis B and C. The two enhanced datasets differ slightly from each other, with 32 variables recommended for the reporting of hepatitis B and 30 variables for hepatitis C (annex 3).

2.2. Implementation of EU case definitions

Countries are formally requested to follow the new EU (EU 2012) case definitions for hepatitis B and C for reporting to the European level[2]. These case definitions are provided in Annex 1.

It is recognised, however, that the case definitions for hepatitis B and C as currently applied in a number of countries differ from these new case definitions. Data using different case definitions will still be accepted in the system until countries are in a position to conform to the new EU case definitions. It is requested that all case definitions used by countries are specified in the data source when uploading data into TESSy.

2.3. Data collection 2006–2011

In 2011, surveillance data on hepatitis B and C were collected for the first time in TESSy. The 2006–2010 data submission for both hepatitis B and C surveillance took place between 15 December 2011 and 15 February 2012. A second data collection took place between 9 September and 19 October 2012 to collect 2011 data. The data presented in this report were retrieved from the database on 19 November 2012.

For the period 2006–2011, data were collected in case-based format as described in the hepatitis B and C reporting protocol. If case-based data were not available, the aggregate format was accepted.

To specify the national surveillance system from which the reported data originate, the variable 'data source' is included as a compulsory part of reporting. International comparisons are hampered by differences in surveillance systems because the quality of national surveillance varies. Interpretation and cross-country comparisons should be made with caution as the amount of under-diagnosis and under-reporting varies across countries. The source of data is described in each disease-specific chapter and provides an overview of the heterogeneity in reporting systems across countries.

2.4. Data analysis

An analysis of the completeness of data and 'Data source' variable provides an overview by country of the availability and origin of data. This information is needed to help interpret the actual data reported. It has to be taken into account that several countries made changes to their surveillance systems during the reporting period. In some cases, historical data were not included as they would not have been comparable with the subsequent enhanced data.

Hepatitis B and C data are presented by 'Date of Diagnosis' and if not available, by 'Date of Statistics' as outlined in the hepatitis B and C reporting protocol. The date of diagnosis will be used for the analysis and the report. When comparing the different dates across the database, there were only minor differences between them in a few of the countries.

Annual rates are calculated per 100 000 population for countries that have comprehensive surveillance systems. Country population denominators used to calculate rates are based on data from the Eurostat database[3].

In the case of hepatitis B infections in the UK, population data from the Office for National Statistics (ONS) were used in order to exclude the country of Scotland which was unable to provide any hepatitis B data. Mid-2008 adjusted ONS population estimates were used across all years for the calculation of rates.

For aggregate reporting, the age groups requested were: < 15, 15–19, 20–24, 25–34, 35–44, 45–54, 55–64 and ≥65 years. If data on age were unavailable or provided in an incompatible format, the specific country was excluded from age-specific analyses.

Italy reported using two data sources. One of these sources has national coverage but includes only a limited number of variables and was used for the demographic variable

2 2012/506/EU: Commission Implementing Decision of 8 August 2012 amending Decision 2002/253/EC laying down case definitions for reporting communicable diseases to the Community network under Decision No 2119/98/EC of the European Parliament and of the Council (notified under document C(2012) 5538) Text with EEA relevance

3 Eurostat database available here: http://epp.eurostat.ec.europa.eu

analysis. This data source was used for the calculation of national rates and for breakdown of the data by age and gender. The other data source in Italy is a sentinel system covering an estimated 73% of the population and includes epidemiological data on a range of variables. The sampled population in this sentinel data source is considered representative of the wider population and this source was used for epidemiological variable analyses such as the reported route of transmission, testing location, vaccination status, etc.

2.5. Quality and completeness of reporting

Liechtenstein did not provide any data on hepatitis B and C and is omitted from all the tables presenting the data per country. France was unable to provide any data on hepatitis C and is omitted from the tables presenting hepatitis C data.

Case classification (confirmed/other)

A few countries have submitted cases with 'unknown' or 'probable' case classification. The revised EU case definitions do not include the classification of cases as 'probable'. In the enhanced data collection, only confirmed cases or cases classified as 'unknown' were accepted. Some countries uploaded data using previous case definitions which included probable cases. All cases were included in the analyses.

Case-based and aggregate reports

For hepatitis B and C, it was agreed to collect the data for 2006 to 2011 in case-based format, where possible. Aggregate data was also accepted if case-based data were not available. Data completeness is affected by the use of aggregate data formats as only limited information is provided in the aggregate format (gender, age). The proportion of cases in case-based format differs between the two diseases and over time (Table 1). In 2006, five countries uploaded data for hepatitis B using the aggregate format, but in 2011, all but one country uploaded case-based data. For hepatitis C, five countries used the aggregate format in 2006, but only two used this format in 2011.

Completeness of data

The completeness of reporting is an important attribute for the quality and interpretation of the data. For the period from 2006 to 2011, 92 365 cases of hepatitis B have been reported from 29 countries with varying degrees of completeness over time; and 175 189 cases of hepatitis C from 28 countries.

In Annex 4, the completeness of data reporting is presented for the total database, for 2006–2011 and for 2006 and 2011 separately. This table shows the completeness by variable with the number of countries reporting and the minimum and maximum values for country-specific completeness.

For both diseases, there was an increase in the number of countries reporting across most variables from 2006 to 2011. The overall completeness of reporting for both diseases was highest for the 'age' and 'gender' variables at over 96%. Overall, the completeness of the StageHEP variable, which defines the disease status, was 77.8% for hepatitis B and 10.8% for hepatitis C. Although the completeness of this variable improved, this was greater for hepatitis B than for hepatitis C. For hepatitis C, the minimum reporting completeness for a country increased from 0.6% in 2006 to 4.4% in 2011.

'HIV status', 'complications', 'sex worker' and 'genotype' had the lowest overall completeness across the period for both infections. The overall completeness for 'sex worker' across the whole period was 5.1% for hepatitis B and 1.3% for hepatitis C. In 2011, only two countries provided genotype information for hepatitis B, and only six countries did so for hepatitis C.

Table 1: Number of cases reported for hepatitis B and C and the percentage of case-based data in 2006 and 2011, and from 2006–2011

	2006–2011		2006		2011	
	Total number of cases	Case-based (% total)	Total number of cases	Case-based (% total)	Total number of cases	Case-based (% total)
Hepatitis B	92 365	81.6	12 642	85.4	17 025	98.0
Hepatitis C	175 189	90.3	27 344	85.1	29 896	92.5

3. Hepatitis B

Table 2: Hepatitis B: data source, type of surveillance data and the surveillance period

Country	Datasource	Type *	Enhanced data	Period	Case definition(s) used
Austria	AT-Epidemiegesetz	C	Yes (all years)	2006–2011	EU 2008
Belgium	BE-FLA_FRA	A	No	2006–2009	National
Bulgaria	BG-NATIONAL_SURVEILLANCE	A	No	2007–2011	EU 2002
	BG-MOH	A	No	2006	EU 2002
Cyprus	CY-NOTIFIED_DISEASES	C	No	2007–2011	EU 2008
Czech Republic	CZ-EPIDAT	C	Yes (2007-2011)	2007–2011	EU 2012
Denmark	DK-MIS	C	Yes (all years)	2006–2011	National
Estonia	EE-HBV/GIARDIASIS**	C	Yes (all years)	2007–2011	EU 2012
	EE-HEP_CHRONIC	A	No	2006–2009	EU 2012
Finland	FI-NIDR	C	Yes (all years)	2006–2011	EU 2012
France	FR-MANDATORY_INFECTIOUS_DISEASES	C	Yes (all years)	2006–2011	EU 2012
Germany	DE-SURVNET@RKI-7.1/6	C	Yes (all years)	2006–2011	National
Greece	GR-NOTIFIABLE_DISEASES	C	Yes (all years)	2006–2011	EU 2008
Hungary	HU-EFRIR	C	Yes (all years)	2006–2011	EU 2012
Iceland	IS-SUBJECT_TO_REGISTRATION	C	Yes (2010 and 2011 only)	2007–2011	EU 2012
Ireland	IE-CIDR	C	Yes (all years)	2006–2011	EU 2012
Italy	IT-SEIEVA***	C	Yes (all years)	2006–2011	EU 2012
	IT-NRS	C	No	2007–2011	National
Latvia	LV-BSN	C	Yes (all years)	2006–2011	EU 2012
Lithuania	LT-COMMUNICABLE_DISEASES	A	No	2006-2009	EU 2012
	LT-COMMUNICABLE_DISEASES	C	Yes	2010-2011	EU 2012
Luxembourg	LU-SYSTEM1	C	No	2007–2011	National
Malta	MT-DISEASE_SURVEILLANCE	C	Yes	2007–2011	EU 2012
Netherlands	NL-OSIRIS	C	Yes (all years)	2007–2011	EU 2012
Norway	NO-MSIS_A	C	Yes (all years)	2006–2011	EU 2012
Poland	PL-NATIONAL_SURVEILLANCE	C	Yes	2010-2011	EU 2008
	PL-NATIONAL_SURVEILLANCE	A	No	2006-2009	EU 2008
Portugal	PT-HEPATITISB	C	Yes (2010 only)	2007–2011	National (2007–2009) EU 2012 (2010–2011)
Romania	RO-RNSSy	C	Yes (all years)	2006–2011	EU 2012
Slovakia	SK-EPIS	C	Yes (all years)	2006–2011	EU 2012
Slovenia	SI-SURVIVAL	C	Yes (all years)	2006–2011	National (2006–2007) EU 2012 (2008–2011)
Spain	ES-STATUTORY_DISEASES	C	No	2007–2011	EU 2008
Sweden	SE-SMINET	C	Yes (all years)	2006–2011	EU 2012
United Kingdom	UK-HEPATITISB	C	Yes (all years)	2006–2011	EU 2012

*Legend: type: aggregated (A); case-based (C).
**Acute data only 2007 -2009; acute and chronic data 2010-2011.
**IT-SEIEVA data source used for epidemiological variables only.

3. Hepatitis B

3.1. Key results

- In 2011, 17 025 cases of hepatitis B were reported from 28 EU/EEA Member States (no data from Belgium or Liechtenstein). 2 812 (16.5%) of these cases were reported as acute, 11 557 (67.9%) of cases were chronic and 2 312 (13.6%) were classified as 'unknown'.
- The rates of reported chronic infections were considerably higher than acute infections but with marked variations between countries.
- Hepatitis B was more often reported in men than women (overall male-to-female ratio of 1.5:1), with an overall rate of 4.1 cases per 100 000 for men and 2.7 for women. The most affected age group were those between 25 and 34 years old, accounting for 32.9% of cases with rates of 8.8 cases per 100 000 in males and 7.7 cases per 100 000 in females. 16.7% of cases were aged under 25 years.
- In 2011 heterosexual transmission (23.4%), nosocomial transmission (23.2%), injecting drug use (13.4%) and transmission among men who have sex with men (MSM) (10.3%) were most commonly reported for acute infections. Mother-to-child transmission was the most common route (67.3%) for chronic cases
- Trends over time are difficult to interpret in the light of changes in case definitions and reporting practices in several countries during this period. However, across acute cases, there is a slight downward trend in rates over time which may reflect the widespread implementation of vaccination programmes. For chronic cases, there is an increase in the number and rates of cases over time which may reflect increased testing and changes in migration.

3.2. Source of data

Between 2006 and 2011, hepatitis B data were available from all countries except Liechtenstein, although some countries were unable to report across the whole period. The data for 2011 represent confirmed cases from all countries. Data prior to 2011 includes probable cases from a number of countries which relates to the difficulties in providing data according to the new case definitions and in distinguishing between acute and chronic disease.

All countries had national coverage with the exception of the United Kingdom which was unable to submit data for Scotland. Table 2 specifies the source of the data, the type of data (aggregate or case-based), the availability of enhanced data, the case definitions used and the period of availability. This table shows the heterogeneity in surveillance systems between countries and within countries over time.

Most countries submitted case-based data. Of the five countries that submitted aggregate data over the course of the reporting period, three were able to submit case-based data for 2011 (Belgium was unable to submit any data for 2011). Twenty seven countries were able to provide enhanced data, although several of these countries were only able to submit enhanced data for the latter part of the reporting period.

Comparison of hepatitis B data across Europe is difficult because of the heterogeneity in the case definitions used and in reporting systems. Although 18 countries were able to provide data in 2011 using the revised case definition (EU 2012), five of these countries submitted data on acute cases only (France, Hungary, Lithuania, Portugal and Romania). Data provided by the countries according to the previous EU case definitions (EU 2008[4] and EU 2002[5]) only include acute cases of hepatitis B. In 2011 four countries (Denmark, Germany, Italy and Luxembourg) provided data according to their national case definitions, which include both acute and chronic cases for Denmark and only acute cases for the Germany, Italy and Luxembourg. It should also be taken into account that in some countries the case definitions changed between 2006 and 2011 with these countries using the revised case definition only for the latter part of the time period.

3.3. Demographic data

In 2011, 17 025 cases of hepatitis B were reported from 28 countries (no data from Belgium and Liechtenstein), resulting in an overall crude rate of 3.5 per 100 000 population. There was very little difference between the crude and age-standardised rates across countries and the overall age-standardised rate was the same as the crude rate.

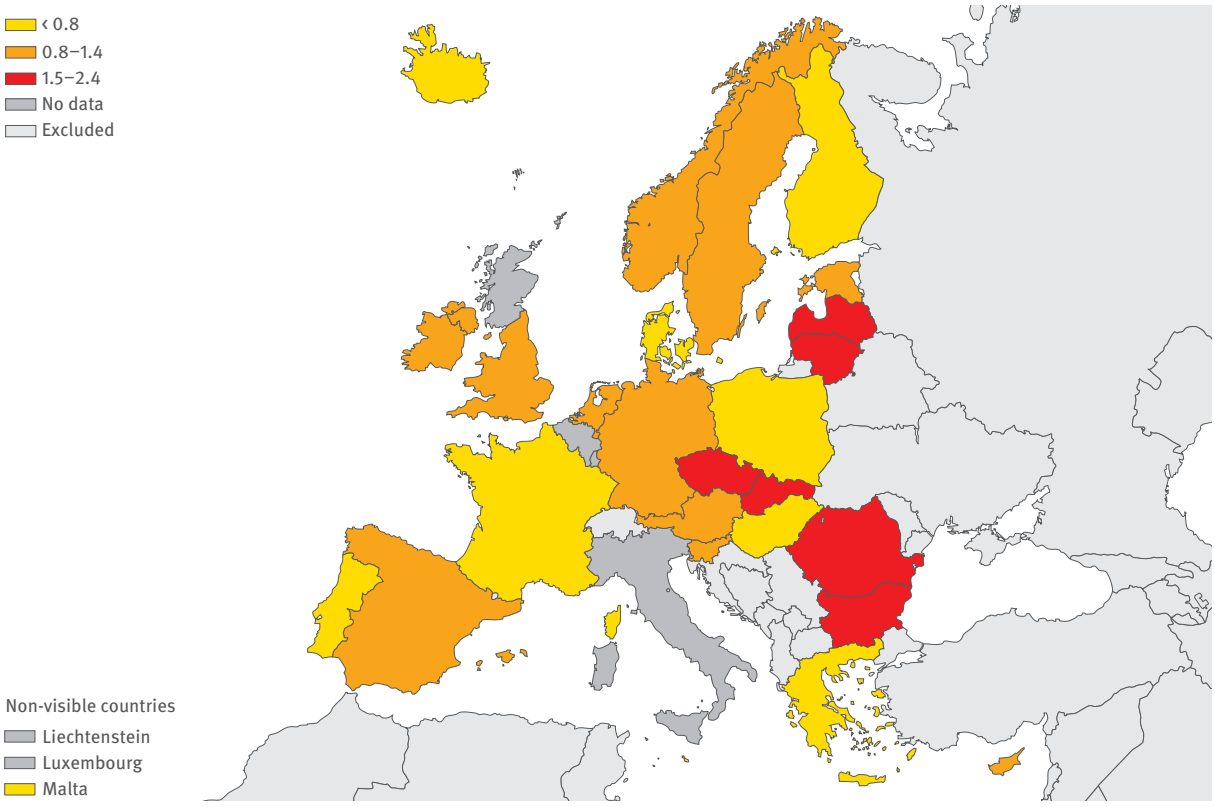
Of all cases reported in 2011, 2 812 cases (16.5%) were reported as acute, 11 557 (67.9%) of cases were chronic and 2 312 (13.6%) were classified as 'unknown'. Three hundred and forty four cases (2.0%) could not be classified as acute, chronic or unknown.

In 2011, 23 countries were able to provide data on acute infections. The number of cases ranged from one case in Portugal and two cases in Iceland to 688 cases in Germany. The rate of acute cases in 2011 showed less extreme variation ranging from <0.1 in Portugal to 2.4 cases per 100 000 in Latvia. The overall notification rate for acute cases of hepatitis B was lower than the rate for chronic cases or cases classified as 'unknown'.

4 2008/426/EC: Commission Decision of 28 April 2008 amending Decision 2002/253/EC laying down case definitions for reporting communicable diseases to the Community network under Decision No 2119/98/EC of the European Parliament and of the Council

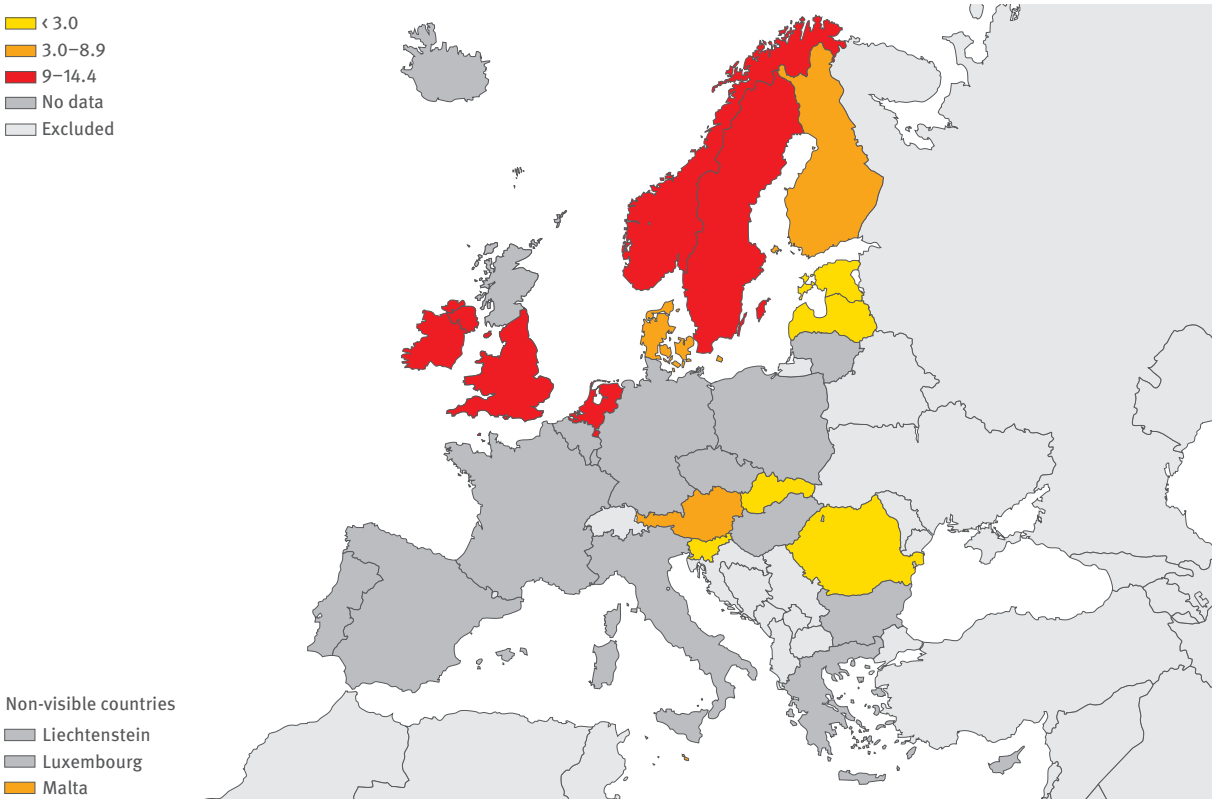
5 2002/253/ED: Commission Decision of 19 March 2002 laying down case definitions for reporting communicable diseases to the Community network under Decision No 2119/98/EC of the European Parliament and of the Council

Figure 1: Number of reported acute hepatitis B cases per 100 000 population in EU/EEA countries, 2011



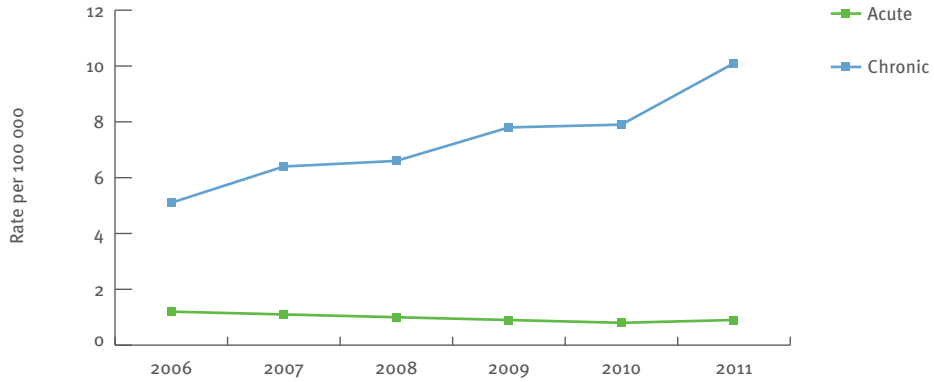
Source, country reports: Austria, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France*, Germany, Greece, Hungary, Iceland, Ireland, Latvia, Lithuania, Malta, The Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom (excluding Scotland).
*Under-reporting was estimated in France to be 85% for acute hepatitis B cases in 2010.

Figure 2: Number of reported chronic hepatitis B cases per 100 000 population in EU/EEA countries, 2011



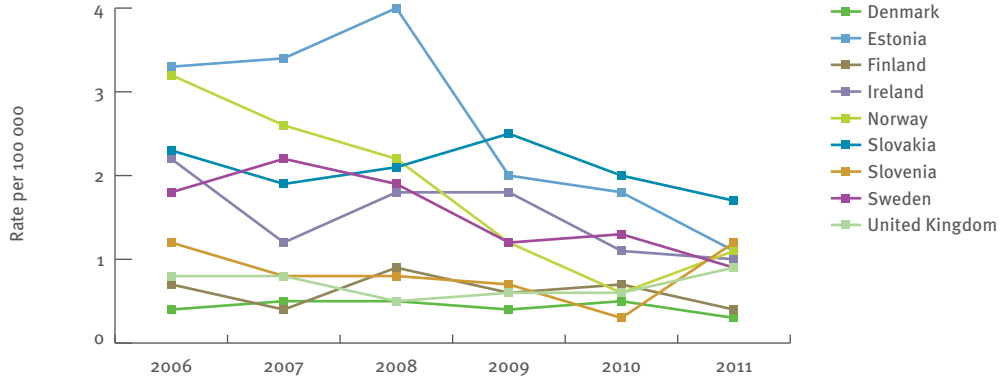
Source, country reports: Austria, Denmark, Estonia, Finland, Ireland, Latvia, Malta, The Netherlands, Norway, Slovakia, Slovenia, Sweden, United Kingdom (excluding Scotland).

Figure 3: Number of acute and chronic hepatitis B cases per 100 000 population in nine EU/EEA countries, by year, 2006–2011



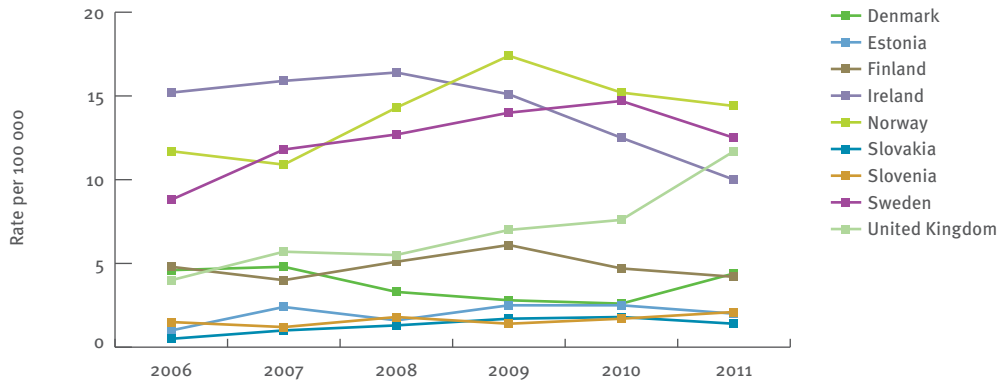
Source: Data from countries with consistent reporting of both acute and chronic infections between 2006 and 2011 (Denmark, Estonia, Finland, Ireland, Norway, Slovakia, Slovenia, Sweden and the United Kingdom (excluding Scotland)).

Figure 4: Number of acute hepatitis B cases per 100 000 population in nine EU/EEA countries, 2006 2011



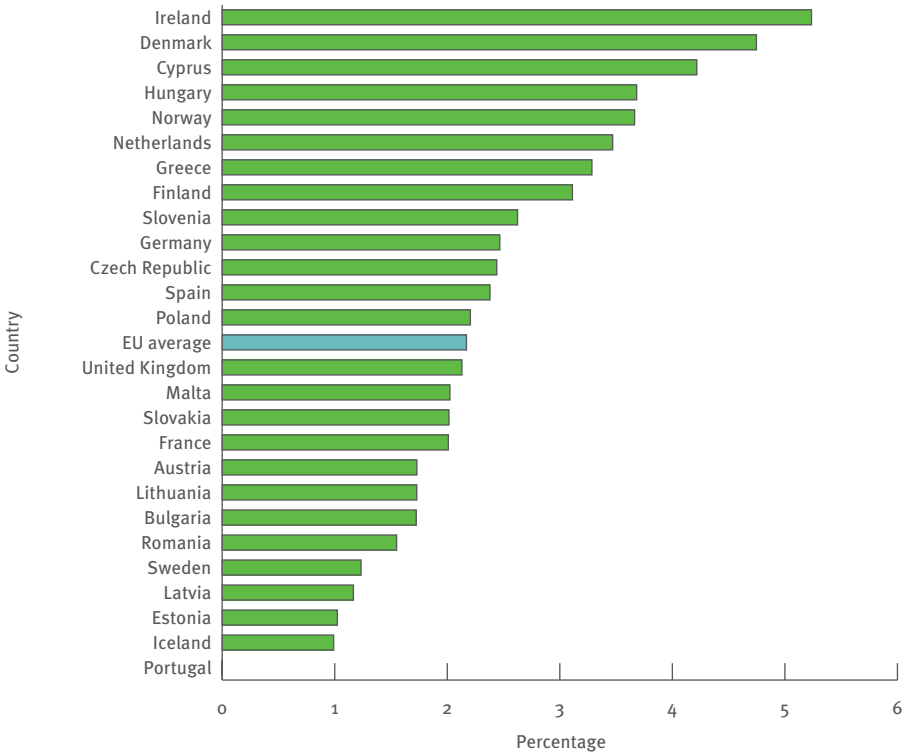
Source: Country reports from countries with consistent reporting of both acute and chronic infections between 2006 and 2011 (Denmark, Estonia, Finland, Ireland, Norway, Slovakia, Slovenia, Sweden and the United Kingdom (excluding Scotland)).

Figure 5: Number of chronic hepatitis B cases per 100 000 population in nine EU/EEA countries, 2006–2011



Source: Country reports from countries with consistent reporting of both acute and chronic infections between 2006 and 2011 (Denmark, Estonia, Finland, Ireland, Norway, Slovakia, Slovenia, Sweden and the United Kingdom (excluding Scotland)).

Figure 6: Male-to-female ratio in acute hepatitis B cases[a], by country[b], EU/EEA countries, 2011[c]



[a] Countries were included if they were able to present data by acute disease status or they used a case definition that included only acute cases (e.g. EU 2002/2008).
[b] Under-reporting was estimated in France to be 85% for acute hepatitis B cases in 2010.
[c] Data for United Kingdom excludes Scotland.
The number of males was greater than the number of females for acute, chronic and unknown cases for every year, but this difference was greater among acute cases than chronic cases. The number of cases per 100 000 population were also higher in males than females and these rates were highest among chronic cases (see table 3). Whilst the acute rates in both males and females showed a downward trend over time, rates among chronic cases by gender increased.

Table 3: Number of reported hepatitis B cases per 100 000 population by stage of infection, gender and year in EU/EEA countries, 2006–2011

Year	All cases		Acute cases		Chronic cases		Unknown	
	Male	Female	Male	Female	Male	Female	Male	Female
2006	4.0	2.9	1.7	0.9	5.3	4.7	1.3	1.2
2007	4.1	2.5	1.5	0.8	7.0	5.7	2.2	1.6
2008	4.1	2.6	1.4	0.7	7.1	5.7	2.2	1.6
2009	4.2	2.7	1.2	0.6	9.1	6.7	2.6	1.7
2010	4.3	2.7	1.3	0.6	10.7	8.0	2.1	1.3
2011	4.1	2.7	1.3	0.6	13.7	10.6	1.9	1.1

Source, country reports: Austria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France*, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom (excluding Scotland).
* Under-reporting was estimated to be 85% for acute hepatitis B cases in France in 2010.

Figure 1 shows the rates of acute hepatitis B across EU/EEA countries in 2011. Countries were included if they were able to present data by acute disease status or if they used a case definition that included only acute cases (e.g. EU 2002/2008). Countries were not included if they uploaded data using a national case definition and they were unable to define the cases as acute or chronic.

Fourteen countries were able to provide data on chronic infections in 2011. The number and rates for chronic infections show considerably greater variation than acute cases. Rates of newly diagnosed chronic infections ranged from <0.1 case per 100 000 in Romania to 14.4 per 100 000 population in Norway (figure 2 and annex 5), while numbers ranged from one case in Romania to 6 589 in the UK.

Trends are difficult to interpret due to the changes in reporting practice and case definitions. The comparison of data across countries over time is best undertaken through considering countries with stable reporting over the six year period. There were nine countries that provided continuous data on both acute and chronic cases, indicating that there is a decline in the overall number of acute infections over time and a steady rise in the number of newly identified chronic infections (figure 3). The chronic to acute rate ratio across these nine countries over this period increased from 4.3 in 2006 to 11.2 in 2011.

Among the nine countries that provided consistent data on both acute and chronic infections, there were differences in the trends of acute rates (see figure 4). Most countries reported a small decline in rates of acute hepatitis B and this decline was most marked in Estonia and Norway. The United Kingdom showed no obvious trend across this period with rates fluctuating around 0.8 to 0.9 cases per 100 000 population.

The rates of chronic cases of hepatitis B in these nine countries across the period shows a mixed picture as illustrated in figure 5. There is an increasing trend in some countries (Estonia, Norway, Slovakia, Slovenia, Sweden and UK) but a declining trend in others (Denmark, Finland and Ireland).

In 2011, 9 835 of all reported cases were in males (4.1 per 100 000) and 6 902 cases in females (2.7 per 100 000). This represents an overall male-to-female ratio of 1.5:1. This ratio varied considerably between countries in 2011, ranging from 0.7 in Denmark to 4.4 in Luxembourg. Some of this variation may be related to the differences in case reporting with the overall male-to-female ratios highest amongst countries that only reported acute cases (Luxembourg, Cyprus, Hungary and Greece). The male-to-female ratio was higher among acute cases than chronic cases in most countries and for acute cases ranged from <0.1 in Portugal to 5.2 in Ireland (see figure 6).

The number of males was greater than the number of females for acute, chronic and unknown cases for every year, but this difference was greater among acute cases than chronic cases. The number of cases per 100 000 population were also higher in males than females and these rates were highest among chronic cases (see table 3). Whilst the acute rates in both males and females showed a downward trend over time, rates among chronic cases by gender increased.

In 2011, around a third of all hepatitis B cases reported were in the 25 to 34 age group (32.9% of the total). The highest rates in both males and females were in this age group at 8.8 per 100 000 in males and 7.7 per 100 000 in females (see figure 7). Across all age groups, except the 20 to 24 age group, rates were higher among males than females and 16.7% of all cases reported in 2011 were aged under 25 years. There has been a decline in this proportion since 2006 when a total of 22.3% of cases were aged under 25.

In 2011, for both acute and chronic cases the rates were highest in the 25 to 34 age group at 1.6 and 26.1 cases per 100 000 respectively. The age distribution among reported cases of acute and chronic infections was similar, with 17.1% of acute cases and 17.6% of chronic aged under 25 years (see figure 8).

3.4. Enhanced surveillance data

Although the number of countries reporting information on transmission category increased between 2006 and 2011, information on transmission was only available for 17.8% of cases in 2011 (see Annex 4). There are differences between countries in the reported routes of transmission, however it is difficult to identify any trends as reporting across most countries was patchy and incomplete.

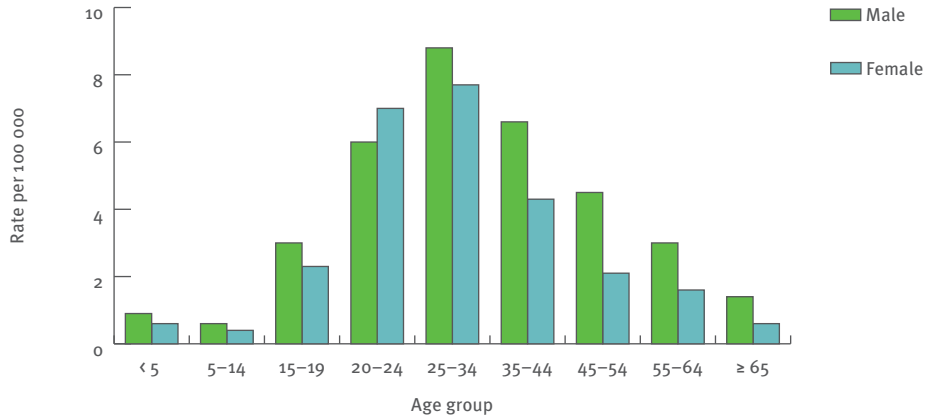
During 2011, for acute cases, heterosexual transmission was reported as the most common route of transmission (23.4%), followed by nosocomial transmission (23.2%), injecting drug use (13.4%) and MSM (10.3%). Between 2010 and 2011 there was an increase in the proportion of acute cases with nosocomial and non-specified sexual transmission. These differences may be related to changes in completeness of reporting over time. Indeed, the increase in reported nosocomial transmission between 2010 and 2011 can all be attributed to the improved reporting by Romania.

In 2011, mother-to-child transmission was the most common route (67.3%) for chronic cases, followed by 'other' routes (9.3%) and heterosexual transmission (6.1%). There was very little change in the reported transmission categories between 2010 and 2011.

There are some differences in reported transmission category by gender across all cases (see figure 9). Mother-to-child transmission was more commonly reported in females (50.6%) than among males (36.2%). Injecting drug use was more common in males (8.9%) than females (4.6%) and un-specified sexual transmission was also more common among males (7.3%) than females (4.9%).

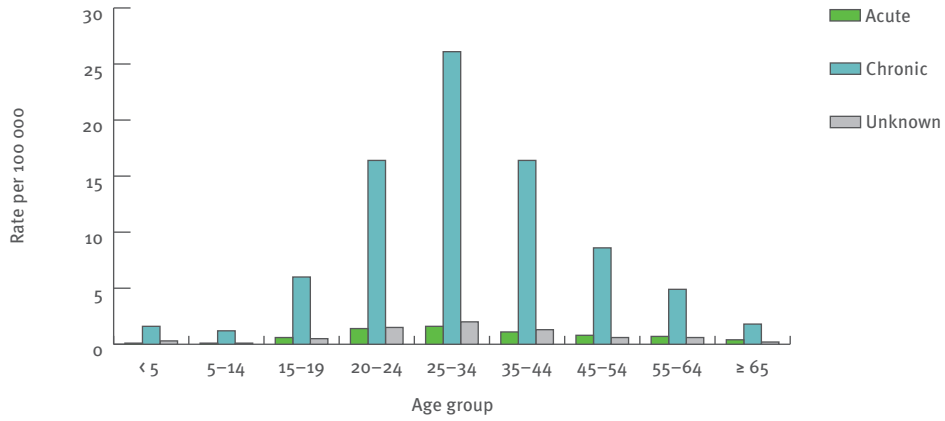
There was also minor variation in the reported transmission category by age. In acute cases aged 30 or under, injecting drug use was more commonly reported (24.9%) than among cases aged over 30 years (7.7%). Heterosexual transmission was also more commonly reported among acute cases aged 30 or under (26.2%) than among cases aged over 30 (22.0%). For chronic cases, mother-to-child transmission dominated across the age groups but was

Figure 7: Number of reported hepatitis B cases (acute, chronic and unknown) per 100 000 population by age group and gender, in EU/EEA countries, 2011



Source, country reports: Austria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Latvia, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom (excluding Scotland).

Figure 8: Number of reported hepatitis B cases per 100 000 by age and disease status, in EU and EEA countries, 2011



Source: Country reports: Austria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Latvia, Netherlands, Norway, Romania, Slovakia, Slovenia, Sweden, United Kingdom (excluding Scotland).

Table 4: Transmission category of hepatitis B cases by disease status, in EU/EEA countries, 2011*

Transmission category	Acute (%)	Chronic (%)	Unknown (%)	Total (%)
Heterosexual transmission	23.4	6.1	18.4	12.6
Nosocomial (includes hospital, nursing home, etc.)	23.2	2.9	2	10.3
Injecting drug use	13.4	3.5	8.2	7.2
Men who have sex with men	10.3	2.4	12.2	5.4
Sexual transmission (not specified)	9.3	3.9	34.7	6.4
Non-occupational injuries (needle stick, bites, tattoos, piercings)	6.6	1.1	0	3.1
Household	6.3	0.8	2	2.8
Other	5.3	9.3	4.1	7.8
Haemodialysis	0.8	0	0	0.3
Blood and blood products	0.6	2.4	2	1.8
Mother-to-child transmission	0.4	67.3	10.2	41.8
Needle-stick and other occupational exposure	0.4	0.3	6.1	0.4
Organ and tissues	0	0	0	0
Total	**100.0**	**100.0**	**100.0**	**100.0**

Source, country reports: Czech Republic, Denmark, Estonia, Finland, France**, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, Norway, Poland, Romania, Slovakia and Sweden.

*Analyses undertaken by disease status category for all cases where transmission category is not classified as 'unknown'

**Under-reporting was estimated to be 85% for acute hepatitis B cases in France in 2010.

There are some differences in reported transmission category by gender across all cases (see figure 9). Mother-to-child transmission was more commonly reported in females (50.6%) than among males (36.2%). Injecting drug use was more common in males (8.9%) than females (4.6%) and un-specified sexual transmission was also more common among males (7.3%) than females (4.9%).

slightly more common among those aged 30 or under (69.3%) than among those aged over 30 (66.0%).

Information on the type of clinical service or testing facility where patients were tested for hepatitis was poorly reported with information available for only 1 998 cases (11.7%) from nine countries. Of these cases, the most common reported place of testing was the infectious disease clinic (36.3%) followed by the family practice (general practice) clinic (23.9%). There was some variation in the reported testing facility by disease status with a greater proportion of chronic cases reported to be tested at antenatal clinics (14.3%) and via general practice (29.5%) than acute cases (0.6% and 7.1% respectively).

Information on healthcare worker status was completed for only 3 575 cases (21.0%) of cases in 2011 from 18 countries. Of these cases, 43 (1.2%) were reported to be healthcare workers (7 acute, 35 chronic and 1 unknown).

Information on hepatitis B vaccination status was provided by 18 countries for 4 025 cases (23.6%). Of these cases, the majority (95.6%) were reported as not being vaccinated with only 39 (1.0%) being reported as fully vaccinated and 38 (0.9%) as partly vaccinated.

In 2011, 18 countries provided information on 6 662 cases (39.1%) for the variable 'imported' (Annex 5). Of these cases 3 507 (52.6%) were reported as being imported. There was considerable variation in the proportion of imported cases for acute and chronic infections. Of acute cases, 6.5% of cases with available information were classified as imported compared with 87.0% for chronic cases. Among acute cases the proportion of 'imported' cases ranged from 0% (Austria, Czech Republic, Germany, Greece, Hungary and Poland) to 69.2% in Finland. Among chronic cases this proportion ranged from 0% in Estonia to 96.1% in Sweden. Some of this variation between countries is likely be related to differences in data completeness and fluctuations caused by low numbers in some countries.

There was some variation in the reported transmission route according to whether the case was imported. In particular, of cases classified as 'imported' with complete information on transmission (1 600), 1 163 cases (72.7%) were recorded as mother-to-child transmission. Of these 1 163 cases, 99.6% were reported as chronic. Among cases classified as not being 'imported' 185 cases were reported to have been infected through heterosexual transmission (77.8% acute), 136 through injecting drug use (66.2% acute) and 116 through nosocomial transmission (83.6% acute).

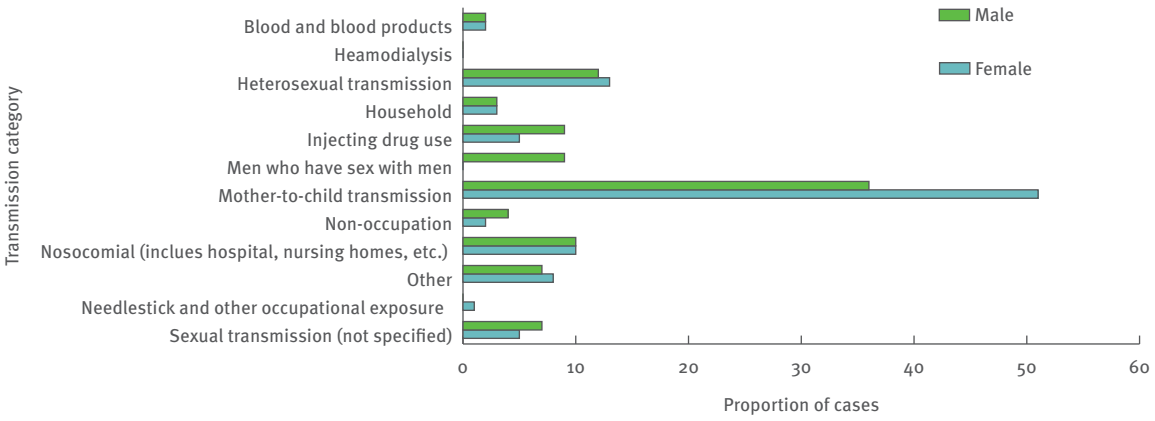
Data on the probable country of infection was provided by 15 countries for a total of 3 443 cases. For these cases, a total of 137 different countries were reported. For 3 340 cases (97.0%), the probable country of infection reported was different from the country reporting the case.

Country of birth and country of nationality were compared to the 'reporting country' as a crude analysis of whether cases may have been infected outside the reporting country, however both country of birth and country of nationality were poorly completed variables across many countries and the data incomplete. In 2011, the proportion of cases where the reporting country was different from the country of birth or nationality (3 882 cases (22.9%)) was greater than the proportion of cases where the reporting country was the same (1 256 cases (7.4%) in 2011) (see annex 5).

In 35.4% of acute cases the reporting country was different to the country of birth or nationality and for 26.9% cases it was the same. The difference was more marked for chronic cases, with the data among cases with complete information indicating that for 22.0% cases the reporting country was different from the reported country of birth or country of nationality, and for 3.1% cases it was the same.

Data on the outcome of hepatitis B infection was reported for 5 172 cases (30.4%) from 22 countries in 2011. Of these cases, 58 were reported to have died.

Figure 9: Transmission category of all hepatitis B cases (acute, chronic and unknown) by gender, in EU/EEA countries, 2011



Source, country reports: Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Sweden, United Kingdom (excluding Scotland).

3.5. Discussion

The data collected from countries highlights a significant burden of infection resulting from hepatitis B in countries across Europe with variation between countries in reported cases of both acute and chronic infections. In countries that reported both acute and chronic cases, there were markedly more chronic cases reported than acute cases. There is a downward trend in the notification rate for acute cases which is likely to be related to the on-going implementation of vaccination programmes across Europe [2, 3]. For chronic cases, there is a rise in the number and rate over time. This increase is most likely to be related to high levels of testing in several countries as a result of screening and testing programmes among key populations.

There are major differences in both the numbers and rates of acute and chronic cases between countries which are not just related to differences in the case definitions used. Six countries had rates of acute hepatitis below 0.5 per 100 000 in 2011 (Denmark, Finland, France, Greece, Poland and Portugal). Whilst these figures may reflect various local factors, such as a decline in local transmission due to effective prevention and control programmes, it is likely that under-reporting is also a key issue, with France estimating this to be as high as 85% in 2010 (Larsen C. INVS France, email communication, 26.03.2013).

The variation in the numbers of chronic cases between countries is more marked than acute cases but the rates show less variation. Ireland, Norway, Sweden and the United Kingdom (excluding Scotland) all reported rates of chronic hepatitis B over 10.0 cases per 100 000 in 2011. The variation in the number of chronic cases is also very likely to be a reflection of the differences in testing and screening practices between countries. A contributory factor behind the high rates in these countries is likely to be the inward migration of chronic cases from countries with a high prevalence of hepatitis B. Indeed, the data on imported status for chronic cases in Sweden and the Netherlands was fairly complete and suggests that a high proportion of these cases are imported.

Hepatitis B varies by age and gender and is most common among young male adults. There were also gender differences between acute and chronic cases with relatively more male cases among acute cases than chronic cases. This variation may be partly explained by the widespread screening of pregnant women that occurs in many countries which identifies many cases of chronic infection among women. In addition, sexual modes of transmission and injecting drug use were more common among males and for acute cases.

Heterosexual transmission, nosocomial transmission, injecting drug use and transmission among MSM were most commonly reported for acute cases and mother-to-child transmission was the most common route for chronic cases. The reported routes of transmission for acute cases reflect the current transmission of hepatitis B in countries. The routes of transmission for chronic cases reflects transmission that may have occurred many years previously and the data indicates that for the majority of cases infection was acquired through mother-to-child transmission. Although issues with data completeness limit the conclusions that may be drawn, the available data suggests that many of these mother-to-child transmissions may have been acquired in a different country to the reporting country.

The completeness of data was heterogeneous across countries and is a serious limitation. It seems that over time more countries were able to provide data and that the completion has improved. There was also some variation in the case definitions used across countries and some changes in case definitions over time within countries with increasing number of countries able to use the new EU case definitions. However, some of the countries able to use the new case definitions could still only report acute cases as only acute hepatitis is notifiable by national law. These differences provide challenges to the interpretation of the data, especially when considering the trends in the number of cases over time, the differences between countries and the conclusions that can be drawn for many of the epidemiological variables. Indeed, the analyses for several of the enhanced epidemiological variables were hampered by poor reporting. It is hoped that over time the completeness of reporting will improve to facilitate a fuller analysis of all the data.

4. Hepatitis C

Table 5: Hepatitis B: data source, type of surveillance data and the surveillance period

Country	Datasource	Type *	Enhanced data	Period	Case definition(s) used	Case definition(s) used
Austria	AT-Epidemiegesetz	C	Yes (all years)	2006–2011	EU 2008	Acute and chronic – differentiated
Belgium	BE-FLA_FRA	A	No	2006–2009	National	No data
Bulgaria	BG-national_surveillance	A	No	2007–2011	EU 2008	Acute and chronic – Undifferentiated
	BG-MOH	A	No	2006	EU 2008	-
Cyprus	CY-NOTIFIED_DISEASES	C	No	2007–2011	EU 2008	Acute and chronic – Undifferentiated
Czech Republic	CZ-EPIDAT	C	Yes (2007–2011)	2007–2011	EU 2008	Acute and chronic – Undifferentiated
Denmark	DK-MIS	C	Yes (all years)	2006–2011	National	Acute and chronic – differentiated
Estonia	EE-HCV/CHLAMYDIA**	C	Yes (2007–2011)	2007–2011	EU 2012	Acute and chronic – differentiated
	EE-HEP_CHRONIC	A	No	2006–2009	EU 2012	-
Finland	FI-NIDR	C	Yes (all years)	2006–2011	EU 2012	Acute and chronic – Undifferentiated
France	-	-	No	-	-	No data
Germany	DE-SURVNET@RKI-7.1/6	C	Yes (all years)	2006–2011	EU 2012	Acute and chronic – Undifferentiated
Greece	GR-NOTIFIABLE_DISEASES	C	Yes (all years)	2006–2011	EU 2008	Acute and chronic – differentiated
Hungary	HU-EFRIR	C	Yes (all years)	2006–2011	EU 2012	Acute only
Iceland	IS-subject_to_registration	C	Yes (2010– 2011)	2007–2011	EU 2012	Acute and chronic – Undifferentiated
Ireland	IE-CIDR	C	Yes (all years)	2006–2011	EU 2012	Acute and chronic – differentiated
Italy	IT-SEIEVA***	C	Yes (all years)	2006–2011	EU 2012	-
	IT-NRS	C	No	2007–2011	National	Acute and chronic – Undifferentiated
Latvia	LV-BSN	C	Yes (all years)	2006–2011	EU 2012	Acute and chronic – Undifferentiated
Lithuania	LT-communicable_diseases	A	No	2006-2009	EU 2012	-
	LT-communicable_diseases	C	Yes (2010–2011)	2010-2011	EU 2012	Acute only
Luxembourg	LU-SYSTEM1	C	No	2007–2011	National	Acute and chronic – Undifferentiated
Malta	MT-DISEASE_SURVEILLANCE	C	Yes (2009–2011)	2007–2011	EU 2008 (2007 – 2008) EU 2012 (2009 – 2011)	Acute only
Netherlands	NL-OSIRIS	C	Yes (2010–2011 only)	2007–2011	EU 2008	Acute only
Norway	NO-MSIS_A	C	Yes (all years)	2006–2011	EU 2012	Acute and chronic – Undifferentiated
Poland	PL-NATIONAL_SURVEILLANCE	A	No	2006-2011	EU 2008	Acute and chronic – Undifferentiated
Portugal	PT-HEPATITISC	C	Yes (2010–2011)	2007–2011	National	Acute only
Romania	RO-RNSSy	C	Yes (all years)	2006–2011	EU 2012	Acute and chronic – Undifferentiated
Slovakia	SK-EPIS	C	Yes (all years)	2006–2011	EU 2012	Acute and chronic – differentiated
Slovenia	SI-SURVIVAL	C	Yes (all years)	2006–2011	National (2006-2007) EU 2012 (2008-2010)	Acute and chronic – differentiated
Spain	ES-STATUTORY_DISEASES	C	No	2007–2008	EU 2008	No data
Sweden	SE-SMINET	C	Yes (all years)	2006–2011	EU 2012	Acute and chronic – undifferentiated
United Kingdom	UK-HEPATITISC	C	Yes (all years)	2006–2011	EU 2012	Acute and chronic – differentiated

*Legend: type: aggregated (A); case-based (C).
**Acute data only 2007 -2009; acute and chronic data 2010-2011.
**IT-SEIEVA data source used for epidemiological variables only.

4. Hepatitis C

4.1. Key results

- In 2011, 29 896 cases of hepatitis C were reported from 26 EU/EEA Member States, representing an overall notification rate of 7.8 cases per 100 000 population.
- Only 12 countries in 2011 were able to classify cases as acute or chronic, with complete data available for only 13.3% of cases overall. Of cases reported in 2011, 398 cases (1.3%) were reported as 'acute', 2 913 (9.7%) of cases were 'chronic' and 24 337 (81.4%) were 'unknown'.
- The overall male-to-female ratio was 2:1. The most affected age group are those between 25 and 34 years old accounting for 28.2% of all cases. Eleven per cent of all cases were aged under 25 years. The notification rate was highest in the 25 to 34 age group at 23.5 per 100 000 in males and 11.9 per 100 000 in females.
- The most common route of transmission reported across all disease categories was injecting drug use, accounting in 2011 for 78.1% of all cases with complete information.
- Trends over time are difficult to interpret due to changes in reporting practices in the use of case definitions and reporting practice over the period.

4.2. Source of data

For 2006–2011, hepatitis C data were available from all countries except Liechtenstein and France. Not all 28 countries were able to provide data for every year. Overall, the reporting improved over the period with 26 countries reporting data in 2011 compared to 19 in 2006. Most cases reported from countries in 2011 were classified as confirmed except for 17 cases of 'unknown' classification from three countries (Latvia, Portugal and Slovakia). Data prior to 2011 included cases classified as 'probable' which relates to the difficulties in providing data according to the new case definitions.

Of the 28 countries reporting data, all had national coverage. Table 5 specifies the source of the data, the type of data (aggregate or case-based), the availability of enhanced data, the case definitions used and the period of availability. This table highlights the significant heterogeneity in surveillance systems between countries and within countries over time.

In 2011, 24 countries submitted case-based data. Five countries submitted aggregate data at some point over the five year reporting period, but three of these countries were able to submit case-based data for 2011. Twenty four countries were able to provide enhanced data, although for eight of these countries enhanced data were only available for the latter part of the reporting period.

Although 15 countries were able to provide data in 2011 using the revised case definition (EU 2012), one of these countries (Lithuania) was only able to use the new case definition for data at the end of the reporting period. Three of these 15 countries just submitted data on acute cases as only acute hepatitis C is notifiable on a national basis (Hungary, Malta, Lithuania). Seven countries provided data according to the previous EU case definition (EU 2008) for hepatitis C which as discussed previously is similar to the revised EU case definition as it also captures data on both acute and chronic infections. Both case definitions include confirmed cases of hepatitis C of both acute and chronic status. The similarity between these two definitions means that hepatitis C data uploaded using either of these two case definitions is fairly comparable.

Malta and Slovenia changed their case definitions between 2007 and 2011.

4.3. Demographic data

In 2011, 29 896 cases of hepatitis C were reported from 26 countries (no data from Belgium, France, Liechtenstein and Spain). The overall notification rate was 7.8 cases per 100 000 population. In 2011, the number of cases reported by countries ranged from 18 cases in both Malta (4.3 cases per 100 000) and Greece (0.2 cases per 100 000) to 12 196 (19.5 cases per 100 000) in the United Kingdom.

In 2011, 398 cases (1.3%) were reported as 'acute', 2 913 (9.7%) as 'chronic' and 24 337 (81.4%) as 'unknown';2 248 cases (7.5%) could not be classified at all according to disease status due to the format of the data provided. Only 11 countries provided data on acute cases of hepatitis C in 2011. The number of acute cases in 2011 ranged from two cases in Portugal (<0.1 cases per 100 000) to 171 cases in Austria (2.0 cases per 100 000). There were eight countries reporting chronic cases in 2011. The numbers of chronic cases showed great variation across countries from six cases in Greece (0.1 cases per 100 000) to 1 496 cases in the UK (2.4 cases per 100 000). The highest rate of chronic disease was observed in Estonia which reported 188 cases and had a notification rate of 14.0 cases per 100 000. The number of cases classified as 'unknown' ranged from one case in Greece (<0.1 cases per 100 000) to 10 070 in the United Kingdom (20.2 cases per 100 000).

The incompleteness of the data as defined by disease status limits the presentation of the data and the identification of geographical trends among acute and chronic cases. Figure 10 shows the overall notification rates of hepatitis C cases across EU/EEA countries. Countries were included if their surveillance system were known to capture data on both acute and chronic cases even if a sizeable proportion of the data was classified as 'unknown'. As acute hepatitis C is usually asymptomatic or mild and difficult to diagnose clinically or serologically, most reported cases of hepatitis C in those countries where all types of viral hepatitis cases are notifiable are therefore likely to be chronic. Although

there are obvious limitations to this approach, it provides more complete data for comparison across countries. The map shows high overall rates of hepatitis C notifications in the north European countries and a suggestion of lower rates in Southern and East European countries.

There are five countries that provided consistent data on acute cases over the six year reporting period (see figure 11). Estonia shows a marked declining trend over this period from 4.2 cases per 100 000 in 2006 to 1.2 cases per 100 000 in 2011. The remaining four countries show low level stable trends over the period.

Five countries reported chronic cases consistently across the six year period (figure 12). These five countries show relatively stable trends apart from Estonia which had increasing rates of chronic notifications from 10.7 cases per 100 000 population in 2006 to 14.0 in 2011.

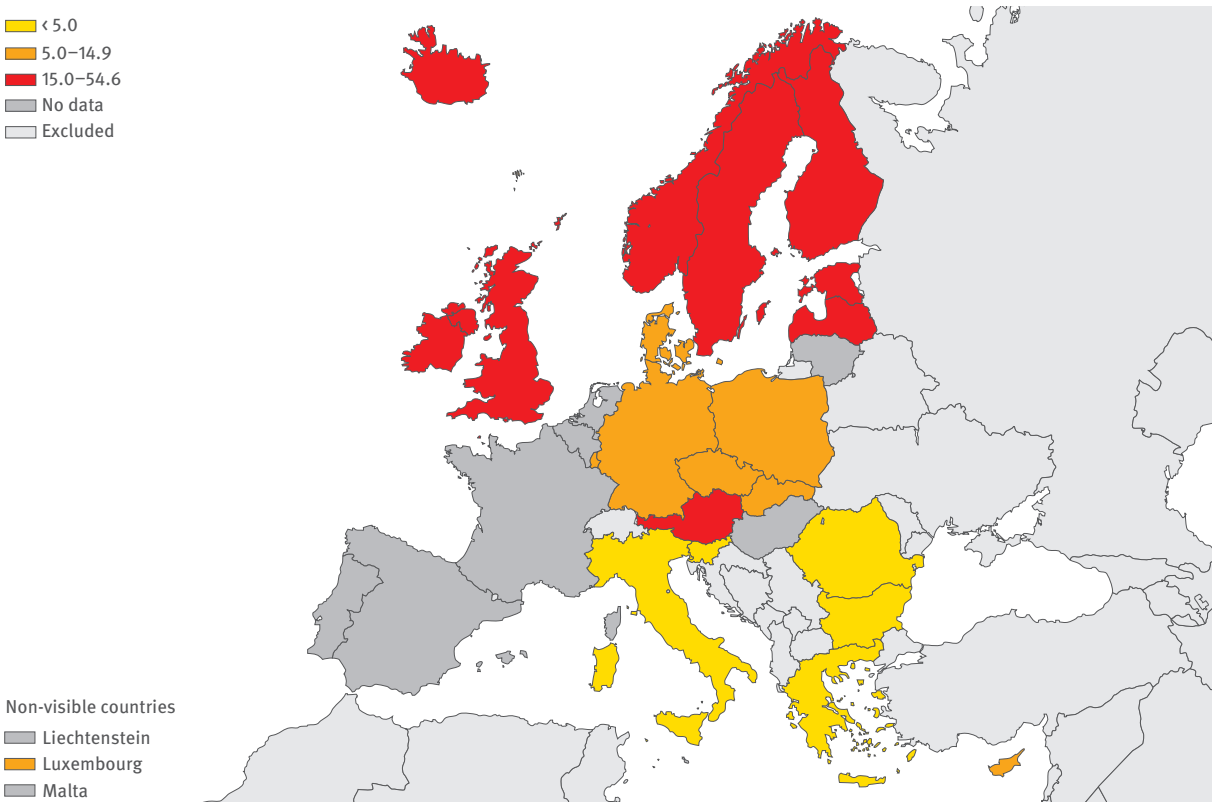
Many countries were unable to use the StageHEP criteria to classify cases as either acute or chronic and consequently classified cases as 'unknown'. As discussed previously, most of these 'unknown' cases are likely to be chronic due to the difficulties in identifying acute cases. Five countries reported 'unknown' cases consistently across the six year period (figure 13). Norway and Latvia show marked variation in rates of 'unknown' cases over the period which may be due to changes in reporting practice or diagnostic testing. The other countries show no obvious trends and the overall figures for these five countries are fairly stable over time.

In 2011, 18 159 of all reported cases for whom gender was reported were male (10.7 cases per 100 000) and 9 521 cases were females (5.4 cases per 100 000). This represents a male-to-female rate ratio of 2:1.This ratio varied little over time, but varied considerably between countries in 2011 ranging from 1.1 in Romania to 55.9 in the Cyprus (see figure 14). The actual numbers of cases in Cyprus with information on gender were low which may explain some of this extreme variation.

The number of males was mostly greater than the number of females for acute, chronic and unknown cases for all countries across all years. Notification rates were higher in males than females across all disease types and were highest among cases classified as 'unknown' and lowest among cases classified as acute (see annex 5, table A15).

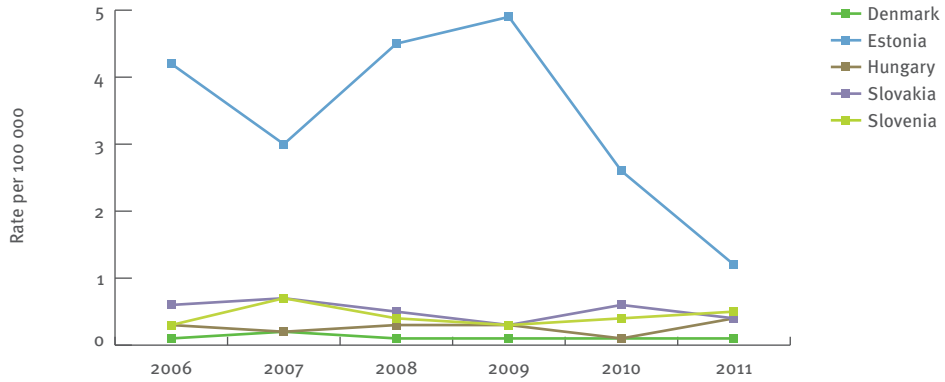
In 2011, just over a half of all the hepatitis C cases reported were aged between 25 and 44 (53.5% of cases) and 11.0% of cases were aged under 25 years. The notification rate was highest for both males and females in the 25 to 34 age group at 23.5 per 100 000 in males and 11.9 per 100 000 in females. For every age group except those aged 0 to 5

Figure 10: Number of reported hepatitis C cases per 100 000 population in 21 EU/EEA countries, 2011



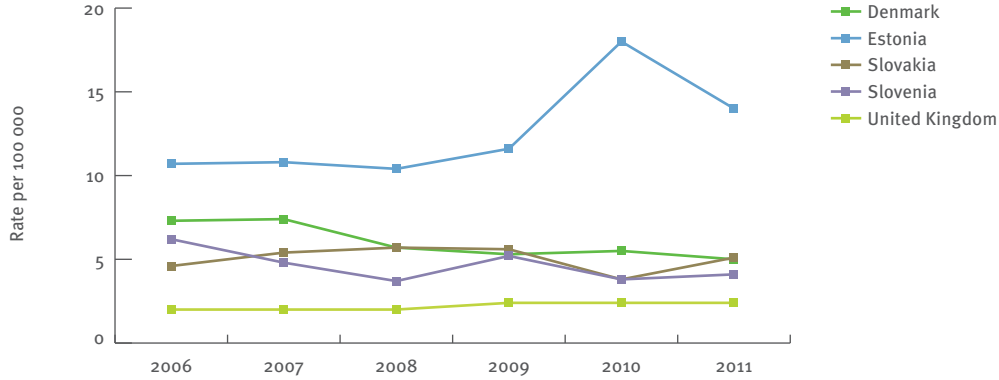
Source, country reports: Austria, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, Germany, Greece, Iceland, Ireland, Italy, Latvia, Luxembourg, Norway, Poland, Romania, Slovakia, Slovenia, Sweden, United Kingdom

Figure 11: Number of acute hepatitis C cases per 100 000 population in five EU/EEA countries, by year, 2006–2011



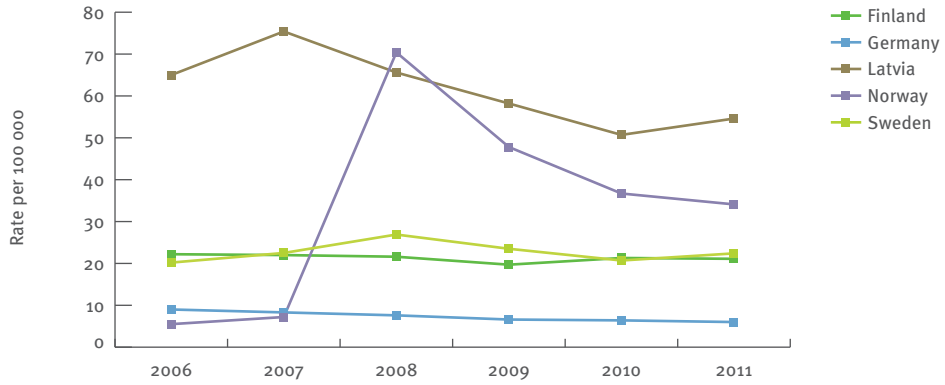
Source: Country reports from countries with consistent reporting of acute hepatitis C infections between 2006 and 2011 (Denmark, Estonia, Hungary, Slovakia, Slovenia).

Figure 12: Number of chronic hepatitis C cases per 100 000 population in five EU/EEA countries, by year, 2006–2011



Source: Country reports from countries with consistent reporting of chronic hepatitis C infections between 2006 and 2011 (Denmark, Estonia, Slovakia, Slovenia, United Kingdom).

Figure 13: Number of 'unknown' hepatitis C cases per 100 000 population in five EU/EEA countries, by year, 2006–2011



Source: Country reports from countries with consistent reporting of 'unknown' hepatitis C infections between 2006 and 2011 (Finland, Germany, Latvia, Norway, Sweden).

Figure 14: Male-to-female ratio in hepatitis C cases in EU/EEA countries, 2011

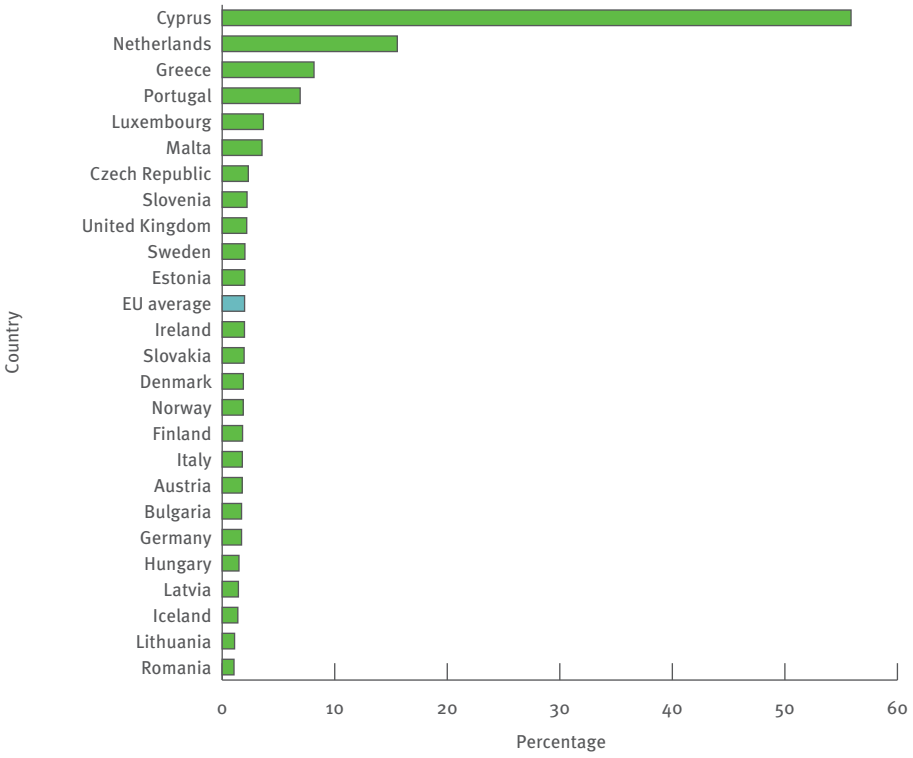
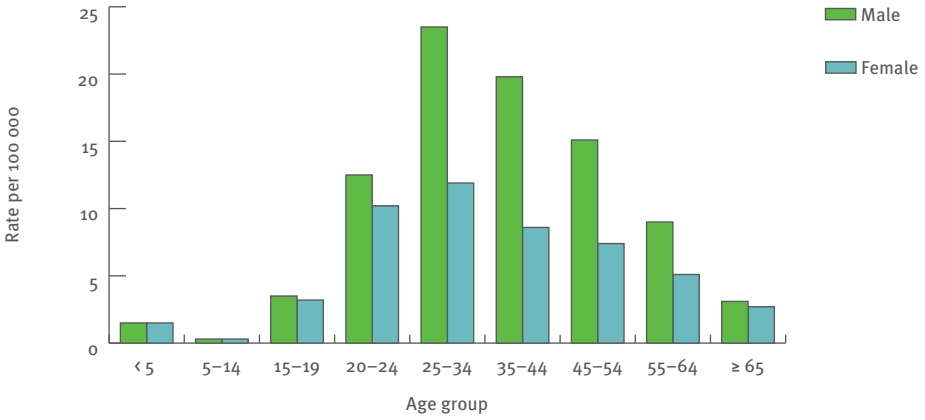


Figure 15: Number of reported hepatitis C cases (acute, chronic and unknown) per 100 000 by age group and gender, in EU and EEA countries, 2011



Source, country reports: Austria, Cyprus, Czech Republic, Denmark, Estonia, Finland, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Portugal, Romania, Slovakia, Slovenia, Sweden, United Kingdom.

and 5 to 14 the notification rates were considerably higher among males than females.

The age distribution by disease status shows that reported cases of acute infection have a slightly younger profile than reported cases of chronic infection, with 27.4% of acute cases aged under 25 years compared to 8.2% of chronic cases

4.4. Enhanced surveillance data

The overall completeness of data provided regarding transmission of hepatitis C was low with information complete for only 28.9% cases in 2011 (see annex 4). There are differences between countries in the reported route of transmission (see annex 5, table A6), but it is difficult to identify any trends as reporting across most countries was incomplete.

Overall, the most commonly reported route of transmission was injecting drug use accounting for 78.1% of all cases in 2011 where transmission route was known (see table 6). The next most commonly reported transmission route was blood and blood products which accounted for 8.1% of cases. Of cases reported as being transmitted through blood and blood products 99.8% of the cases were classified as chronic or 'unknown'.

Across all disease status groups, injecting drug use was the most common route of transmission, although this proportion was lower among acute cases than among those classified as chronic or 'unknown'. In acute cases, the other main routes of transmission included nosocomial transmission (16.9%) and transmission among men who have sex with men (24.4%). However, the number of acute cases with complete information on transmission was low so these figures may be subject to both fluctuation and reporting bias.

Between 2006 and 2011, there were a few changes in the reported transmission category. Table A8 in annex 5 shows the data by disease status and transmission category over the six-year period. Overall there was an increase in cases reported as male-to-male transmission or 'not specified' sexual transmission. For acute cases, there is a fall in the proportion of cases assigned as injecting drug use from 40.6% in 2006 to 33.3% in 2011. There is a concurrent rise in the proportion of cases among MSM from 0.7% in 2006 to 24.4% in 2011.

The type of clinical service or testing facility where patients were tested for hepatitis was poorly reported with information available for 4 811 cases from nine countries (Estonia, Hungary, Ireland, Latvia, Luxembourg, Malta, Portugal, Sweden, United Kingdom). Of these cases, the most common reported place of testing infectious was disease clinics (32.7%) followed by 'other' (23.6%), and general practice clinics (20.7%).

Seventeen countries reported data for the 'imported' variable for 12 111 cases. Of the 1 006 cases in 2011 reported by countries as being imported, 15 (1.5%) were in acute cases, 294 (29.2%) were chronic cases and 697 (69.3%) were in cases whose disease status was unknown.

Data on the outcome of hepatitis C infection was reported for 10 488 cases from 24 countries in 2011 (see table A14). Of these cases, 76 were reported to have died.

4.5. Discussion

The data presented indicates a high burden of hepatitis C infection in countries across Europe with considerable variation between countries in the number of reported cases.

Although some countries only reported acute cases, the vast majority of reported cases are classified as either 'chronic' or 'unknown'. As acute hepatitis C is difficult to diagnose clinically and serologically, it is likely that most of these 'unknown' cases are chronic cases. In countries able to define cases using the StageHEP criteria as acute or chronic there are markedly more chronic cases than acute cases reported. There was variation between countries in the reported cases of acute, chronic and 'unknown' cases.

Table 6: Transmission category of hepatitis C cases by disease status in EU/EEA countries, 2011*

Transmission category	Acute (%)	Chronic (%)	Unknown (%)	Total (%)
Injecting drug use	33.3	83.7	78.4	78.1
Men who have sex with men	24.4	0.0	1.3	1.7
Nosocomial (includes hospital, nursing home, etc.)	16.9	4.7	1.7	2.5
Heterosexual transmission	7.5	2.5	1.4	1.7
Household	6.0	0.2	0.1	0.3
Non-occupational injuries (needle stick, bites, tattoos, piercings)	6.0	1.9	1.2	1.4
Sexual transmission (not specified)	2.5	0.5	4.3	3.6
Other	2.0	3.0	0.9	1.3
Haemodialysis	1	0.0	0.4	0.4
Blood and blood products	0.5	2.7	9.4	8.1
Mother-to-child transmission	0.0	0.3	0.6	0.5
Needle-stick and other occupational exposure	0.0	0.4	0.3	0.3
Organ and tissues	0.0	0.0	0.0	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**

Source, country reports: Czech Republic, Denmark, Estonia, Finland, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Sweden and United Kingdom.
*Analyses undertaken by disease status category for all cases where transmission category is not classified as 'unknown'.

This variation is likely to be related to a number of factors including the ability to define data by acute or chronic status as well as the considerable differences in the amount of diagnostic testing taking place between countries.

The data presented indicates hepatitis C to be an infection predominantly affecting young adult males, which reflects the demographic profile of the key risk groups. Male cases dominate acute and chronic infections and across all countries but there were considerable differences in the male-to-female ratio between countries. The source of this variation is not clear but it is probable that some of this variation may be explained by the small numbers resulting in fluctuations in the data.

There are differences in age distribution between acute and chronic cases. These differences are likely to be related to the differences in ages of the different risk groups. Indeed, individuals infected with hepatitis C through MSM transmission, which is more commonly reported among acute cases, tend to be younger than those infected through injecting drug use.

Injecting drug use was the main route of transmission for all disease categories and across all countries, but was less frequently reported among acute cases. Analyses of the data showed an increasing proportion of cases among MSM over time. Several European countries have reported a rise in hepatitis C infections among HIV infected MSM [4] and routine screening of HIV positive MSM is undertaken in these countries. It is possible that this screening has elevated the number of cases with the transmission category MSM among acute cases.

The StageHEP variable, (which distinguishes stage of infection as acute, chronic and unknown), was considerably less complete for hepatitis C than hepatitis B which reflects the complicated serology of hepatitis C and the difficulties in differentiating between acute and chronic infections. Over the whole period, this variable, which enables the breakdown of data by disease status, was only provided for 10.8% of cases. Although data completeness improved over time, many countries were only able to classify cases as 'unknown' and this is a significant limitation of the data collected.

There was also some variation in the case definitions used across countries and over time. Both the EU 2008 and the EU 2012 definitions include acute and chronic cases, so reviewing data between countries using these two definitions is less problematic than for hepatitis B. However, some of the countries using these definitions only provided data on acute cases, as only acute hepatitis C is notifiable on a national level, which is problematic due to the difficulties in easily identifying acute infections. These differences in the reporting of cases between countries and over time hamper a clear interpretation of the data.

A further limitation of the data is the heterogeneity of the data completeness across both countries and variables. However, over the data collection period, more countries were able to provide data for each of the variables and data completion improved. Nevertheless, these differences provide challenges to the interpretation of the data, especially when considering the trends in the number of cases over the reporting period, the differences between countries and the conclusions that can be drawn for many of the epidemiological variables.

5. General discussion and conclusions

Table 7: Summary of key statistics of hepatitis B and C data in EU/EEA countries, 2011

Indicators 2011	Hepatitis B	Hepatitis C
Number of countries reporting data in 2011:		
Overall	28	26
Using EU 2012 case definition	18	15
Completeness of stageHEP variable, 2011	88.4%	13.3%
Rates per 100 000 population:		
Acute	0.7	0.5
Chronic	8.0	2.9
Unknown	0.8	8.1
Total	3.5	7.8
Male-to-female rate ratio	1.5:1	2:1
% cases among 25 to 34 year olds	32.9%	28.2%
% cases aged under 25	16.7%	11.0%
Most common transmission category:		
Acute	Heterosexual transmission 23.4%	Injecting drug use 33.3%
Chronic	Mother-to-child 67.3%	Injecting drug use 83.7%
All cases	Mother-to-child 41.8%	Injecting drug use 78.1%

Source, country reports: Czech Republic, Denmark, Estonia, Finland, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Sweden and United Kingdom.
*Analyses undertaken by disease status category for all cases where transmission category is not classified as 'unknown'.

5. General discussion and conclusions

This report presents the results from the first EU-wide data collection of enhanced hepatitis B and C surveillance data from EU/EEA Member States. The results indicate that surveillance systems for these infections across countries are both diverse and complex. The heterogeneity in reporting makes the interpretation of the distribution and trends of hepatitis B and C very challenging. It is therefore essential to have a clear understanding of the national surveillance systems. Although data for both infections improved in terms of completeness over 2006–2011 for many variables, this was a major challenge hampering the interpretation of results.

The revised EU case definition developed for hepatitis B captures cases in both acute and chronic stages of the infection (or where the stage is unknown) to provide a more accurate assessment of the epidemiological situation. This distinction between acute and chronic cases of hepatitis B is important from a public health perspective to help evaluate the impact of control measures on transmission patterns and to guide future prevention strategies. The previous EU case definition for hepatitis C included the capture of both acute and chronic cases and was only revised very slightly to include the reporting of cases using the new antigen test and to exclude resolved cases.

The overall comparison between hepatitis B and C with respect to numbers, rates, number of countries reporting, male-to-female ratio, age distribution and reported transmission route are shown in the table below.

The majority of countries reported enhanced case-based data for both hepatitis B and C. Around two thirds of the countries who reported data in 2011 used the new case definitions for both diseases. The classification of cases into disease status was problematic for many countries and was a particular issue for hepatitis C, which resulted many cases being classified as unknown. The problem with the StageHEP criteria for hepatitis C reflects the general difficulty in defining hepatitis C, especially acute hepatitis C, which is widely recognised in the published medical literature [5–8]. Although countries had some difficulty adapting their data to the new case definitions and classifying their cases by stage of infection, this first data collection still represents an important step towards harmonising and improving the surveillance of hepatitis B and C across Europe.

Whilst many countries were able to use the revised hepatitis B case definition, other countries provided data using their own national case definition or one of the previous EU case definitions that did not capture chronic cases. Differences in case definitions between countries were less problematic for hepatitis C, as the previous EU case definition and other national case definitions permit the capture of both acute and chronic data. This heterogeneity in the data reported pose a challenge to the interpretation of data across countries, but should improve as more countries adapt their data to the new case definitions and get more experience in differentiating data as acute or chronic.

Across all countries, more cases of hepatitis C than hepatitis B are reported with numbers of cases of hepatitis C roughly double those of hepatitis B. In most countries, the overall figures for both infections are driven by the large numbers of chronic and unknown cases. For hepatitis C, many of the cases are classified as 'unknown' but these are likely to be chronic infections on account of the difficulties in diagnosing acute disease.

For hepatitis B, the figures suggest a decrease in acute cases and a rise in newly reported chronic infections and the former could be explained by the availability of vaccination programmes [9]. A fall in the prevalence of HBsAg has been noted in many countries in Central Europe, Central Sub-Saharan Africa, Central America and South East Asia and this is considered most likely to reflect the effective implementation of vaccination programmes in these countries [10]. The rise in chronic cases may be due to increased diagnostic testing but another explanation for this rise, and for the variation in chronic cases between countries, is the difference in migration patterns between countries. Whilst the decrease of acute cases is reassuring, with such large and possibly rising numbers of chronic hepatitis B cases in many countries there is no room for complacency in national prevention and control programmes. The large number of chronic cases poses a burden to health care in terms of the associated burden of disease from cirrhosis and cancer and the related treatment costs.

For hepatitis C, there are no obvious trends over the period in either acute or chronic infections, although it is possible that the difficulties in defining the data in many countries may have masked any such trends. There is no vaccine commercially available to prevent hepatitis C and acute infections are particularly difficult to identify clinically and diagnose serologically. As chronic infection for both diseases is generally asymptomatic until a late stage, the numbers of chronic cases for both diseases are likely to be strongly related to screening programmes and diagnostic testing in countries. Indeed, some of the countries with the greatest reported burden, e.g. UK, are the ones with the most comprehensive screening and diagnostic testing of risk groups. Further epidemiological work to review these differences in more detail, reviewing the population tested denominator for example, would be useful to help clarify these differences.

The large numbers of newly diagnosed cases of chronic hepatitis B and hepatitis C present a significant public health challenge to countries. Chronic infections have implications for the individual in terms of treatment and care and for the wider population in terms of the risks of possible transmission of infection. All countries should

have a comprehensive programme of prevention, care and treatment for these infections and those with a high or escalating burden of disease should consider strengthening these programs based on their local epidemiology.

Although many of the enhanced epidemiological variables were poorly reported, the data completeness improved over the reporting period, however, further work is necessary to address this issue. The transmission and 'migration' variables provide interesting results which aid the understanding of the epidemiology of these two diseases. Despite the limitations of the 'migration' variables, the results provide an indication that imported cases play a more significant role in hepatitis B than hepatitis C, especially for chronic hepatitis B infections.

Transmission routes for hepatitis B differed as compared to hepatitis C, and for hepatitis B, transmission routes varied by disease status. Indeed, mother-to-child transmission was more commonly reported for chronic hepatitis B cases as compared to acute cases and the data suggests that a large proportion of these cases are imported. The transmission of hepatitis B within countries is reflected in the most common transmission route reported for acute cases: heterosexual transmission, male-to-male transmission, injecting drug use, and nosocomial transmission.

For hepatitis C, the most common route of transmission across all stages of disease was injecting drug use. The second most common route of transmission overall was blood and blood products but the majority of these cases were among chronic cases reflecting transmission in countries in the past before the screening of blood and blood products. A worrying trend over the reporting period is the rise in reported MSM transmissions among acute hepatitis C cases which reinforces the need to strengthen prevention programmes across key risk groups in countries as this rise in cases has implications for other sexually transmitted infections in these groups.

In conclusion, the first collection of enhanced surveillance data for hepatitis B and C across Europe highlights a significant burden of disease associated with chronic infections for both diseases. The data suggest that acute infections are declining across many countries for hepatitis B, whilst for hepatitis C the challenges in classifying cases by disease status significantly limit any conclusions that can be drawn regarding acute cases. For both hepatitis B and C, the number of chronic cases reported from countries that are able to provide this information indicates a high burden of disease. This burden of disease related to chronic infection is considerably greater for hepatitis C than for hepatitis B.

The comparability of data across countries is impaired by differences in surveillance systems. The difficulty in some countries in classifying cases by disease status is one of the most problematic differences to account for between countries. When all these differences are taken into account, there is still great variation between countries in their reported cases and these differences are greater for chronic cases than acute cases. For chronic infections, this variation reflects the different testing practices between countries as well as differences in the underlying local epidemiology, but further research is necessary to explore this variation.

Enhanced surveillance of hepatitis B and C across Europe is essential to provide the information necessary to monitor the distribution of disease and to evaluate the public health response to prevent and control the transmission of infections. In order to achieve this aim, countries in Europe need to work towards providing high quality surveillance data using standard case definitions.

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Annexes

Annex 1. Case definitions for hepatitis B and C

Hepatitis B (hepatitis B virus)

Clinical Criteria
Not relevant for surveillance purposes

Laboratory criteria
Positive results of at least one or more of the following tests or combination of tests:

- IgM hepatitis B core antibody (anti-HBc IgM)
- Hepatitis B surface antigen (HBsAg)
- Hepatitis B e antigen (HBeAg)
- Hepatitis B nucleic acid (HBV-DNA)

Epidemiological criteria
Not relevant for surveillance purposes

Case classification
A. Possible case
NA
B. Probable case
NA
C. Confirmed case
Any person meeting the laboratory criteria

Comments/notes
NOTE: The following combination of laboratory tests shall not be included or reported:

- Resolved hepatitis – Hepatitis B total core antibody (anti-HBc) positive and hepatitis B surface antibody (anti-HBs) positive
- Immunity following vaccination – Hepatitis B total core antibody (anti-HBc) negative and hepatitis B surface antibody (anti-HBs) positive
- Anti-HBc IgG positivity only

NOTE: Elevated levels of IgM in some chronic cases may result in misclassification which could overestimate the number of acute cases

Hepatitis C (hepatitis C virus)

Clinical criteria
Not relevant for surveillance purposes

Laboratory criteria
At least one of the following three:

- Detection of hepatitis C virus nucleic acid (HCV RNA)
- Detection of hepatitis C virus specific antigen (HCVcore)
- Hepatitis C virus specific antibody (anti-HCV) response confirmed by a confirmatory (e.g. immunoblot) antibody test in persons older than 18 months without evidence of resolved infection

Epidemiological criteria
Not relevant for surveillance purposes

Case classification
A. Possible case
NA
B. Probable case
NA
C. Confirmed case
Any person meeting the laboratory criteria

Comments/Notes
NOTE: The following combination of lab tests shall not be included or reported:

Resolved infection: Detection of hepatitis C virus antibody and no detection of hepatitis C virus nucleic acid (HCV RNA negative result) or hepatitis C virus core antigen (HCV-core negative result) in serum/plasmaSource: 2012/506/EU: Commission Implementing Decision of 8 August 2012 amending Decision 2002/253/EC laying down case definitions for reporting communicable diseases to the Community network under Decision No 2119/98/EC of the European Parliament and of the Council (notified under document C(2012) 5538)

Annex 2. Implementation of case definitions with the StageHEP variable

Disease and code	Description
Hepatitis B	
Acute	Detection of IgM antigen specific antibody (anti-HBc IgM) *or* Detection of hepatitis surface antigen (HBsAg) and previous negative HBV markers less than 6 months ago *or* Detection of hepatitis B nucleic acid (HBV-DNA) and previous negative HBV markers less than six months ago Any of the above with or without symptoms and signs (e.g. jaundice, elevated serum aminotransferase levels, fatigue, abdominal pain, loss of appetite, intermittent nausea, vomiting, fever)
Chronic	Detection of HBsAg or HBeAg or HBV-DNA *and* No detection of anti-HBc IgM (negative result) *or* Detection of HBsAg or HBeAg or HBV-DNA on two occasions that are six months apart*
Unknown	Any newly diagnosed case which cannot be classified according the above description of acute or chronic infection
Hepatitis C	
Acute	Recent HCV seroconversion (prior negative test for hepatitis C in last 12 months) *or* Detection of hepatitis C virus nucleic acid (HCV RNA) or hepatitis C virus core antigen (HCV-core) in serum/plasma and no detection of hepatitis C virus antibody (negative result)
Chronic	Detection of hepatitis C virus nucleic acid (HCV RNA) or hepatitis C core antigen (HCV-core) in serum/plasma in two samples taken at least 12 months apart*
Unknown	Any newly diagnosed case which cannot be classified according the above description of acute or chronic infection

*In the event that the case was not notified the first time

Annex 3. Enhanced set of variables for hepatitis B and C surveillance

Type and variable Name	Mandatory	Hepatitis B	Hepatitis C
Core set			
RecordId	Yes	√	√
RecordType	Yes	√	√
RecordTypeVersion	No	√	√
Subject	Yes	√	√
DataSource	Yes	√	√
ReportingCountry	Yes	√	√
DateUsedForStatistics	Yes	√	√
Status	No	√	√
DateOfNotification	No	√	√
DateOfDiagnosis	Yes	√	√
PlaceOfResidence	No	√	√
PlaceOfNotification	No	√	√
Age (years)	Yes	√	√
Gender	Yes	√	√
DateOfOnset	No	√	√
Outcome	No	√	√
Classification	Yes	√	√
Disease-specific			
StageHEP	Yes	√	√
ResultHBeAg	No	√	NA
TestingLocation	No	√	√
CountryOfBirth	No	√	√
CountryOfNationality	No	√	√
Imported	No	√	√
ProbableCountryOfInfection	No	√	√
Transmission	Yes	√	√
SexWorker	No	√	√
HealthCareWorker	No	√	√
HIVStatus	No	√	√
HBVStatus	No	NA	√
HCVStatus	No	√	NA
VaccStatus	No	√	NA
Complications	No	√	√
Genotype	No	√	√

NA: not applicable

Annex 4. Completeness of reporting

Type and variable Name	Overall			2006			2011		
	Proportion complete – all years (%)	Proportion complete – 2006–2010 (%)	Proportion complete – 2011 (%)	Number of countries	Maximum complete (%)	Minimum complete (%)	Number of countries	Maximum complete (%)	Minimum complete (%)
Hepatitis B									
Age	99.4	99.3	99.9	16	100.0	30.2	27	100.0	82.9
Complications	3.8	4.0	3.0	2	87.8	30.2	5	100.0	3.8
Country of birth	15.6	14.7	19.1	6	73.3	2.0	11	100.0	7.7
Country of nationality	6.8	6.8	6.8	4	100.0	2.6	10	100.0	7.7
Gender	97.0	96.8	98.0	16	100.0	30.2	27	100.0	91.7
Genotype	0.0	0.0	0.0	1	0.9	0.9	2	0.4	0.1
HBeAg Status	12.4	12.9	10.4	3	73.3	29.0	12	90.1	0.1
HCV status	5.7	6.4	3.1	4	84.6	0.2	9	100.0	1.9
Health care worker	14.9	13.4	21.0	11	100.0	0.1	18	100.0	0.0
HIV status	4.4	4.5	4.1	2	100.0	2.3	6	100.0	0.1
Imported	38.8	39.5	39.1	12	100.0	1.1	18	100.0	0.1
Outcome	30.6	30.2	30.4	12	100.0	1.8	22	100.0	0.7
Probable country of infection	23.2	23.9	20.2	11	100.0	0.7	15	82.4	0.1
Sex worker	5.1	3.7	10.9	3	100.0	12.1	9	100.0	0.1
StageHEP	77.8	75.2	88.4	14	100.0	67.2	24	100.0	3.8
Testing location	17.6	19.0	11.7	5	89.5	1.8	9	100.0	1.4
Transmission	17.8	17.8	17.8	13	73.6	3.7	20	86.4	6.3
Vaccination status	22.3	21.9	23.6	10	92.6	5.1	18	99.7	4.2
Hepatitis C									
Age	99.0	98.8	100.0	15	100.0	10.3	24	100.0	94.4
Complications	5.8	5.8	5.8	2	100.0	0.5	4	100.0	0.6
Country of birth	14.5	14.5	14.4	5	93.0	4.2	8	99.3	15.5
Country of nationality	5.9	5.7	6.6	4	100.0	3.7	8	100.0	79.6
Gender	97.8	97.6	98.7	15	100.0	10.3	24	100.0	97.6
Genotype	2.4	2.4	2.4	2	7.5	0.9	6	14.7	0.1
HBV status	4.1	4.8	0.6	4	83.0	0.8	8	82.9	0.5
Health care worker	7.4	7.2	8.0	8	100.0	3.5	13	100.0	0.2
HIV status	4.9	5.7	1.4	2	100.0	0.2	7	100.0	0.4
Imported	45.1	46.2	40.5	11	100.0	1.0	17	100.0	2.7
Outcome	40.5	40.8	35.1	12	100.0	0.8	24	100.0	0.1
Probable country of infection	13.3	14.5	7.6	9	100.0	2.0	13	100.0	0.2
Sex worker	1.3	1.3	1.5	2	100.0	100.0	6	100.0	0.5
StageHEP	10.8	10.2	13.3	8	100.0	0.6	13	100.0	4.4
Testing Location	19.9	20.5	16.1	5	85.5	10.1	9	100.0	0.1
Transmission	31.9	32.6	28.9	12	86.8	3.8	19	83.3	10.1

Annex 5. Tables

Table A1: Numbers of reported hepatitis B cases in EU and EEA countries[a], 2006–2011[b]

Country	2006				2007				2008				2009				2010				2011			
	All	Acute	Chronic	Unknown	All	Acute	Chronic	Unknown	All	Acute	Chronic	Unknown	All	Acute	Chronic	Unknown	All	Acute	Chronic	Unknown	All	Acute	Chronic	Unknown
Austria	59			59	86			86	43	42		1	45	44		1	136	135		1	574	82	403	89
Belgium[c]	401				138				122				129											
Bulgaria[c]	773				753				624				504				387				344			
Cyprus					13				7				7				7				10			10
Czech Republic					304	304			304	304			247	247			244	219		25	191	191		
Denmark	272	20	252		287	25	261	1	204	25	178	1	180	23	155	1	170	28	142		264	17	243	4
Estonia	59	45	14		78	46	32		75	53	22		60	27	33		58	24	34		42	15	27	
Finland	288	38	250		231	21	210		318	47	271		360	33	327		286	36	250		248	24	224	
France[d]	147	147			141	141			130	130			94	94			86	86			101	101		
Germany	1179	1068		111	1003	901		102	820	734		86	743	652		91	762	657		105	793	688		105
Greece	87	86		1	82	79		3	80	80			52	50		2	35	34		1	38	38		
Hungary	81	81			80	80			88	88			67	67			60	60			65	65		
Iceland					47				61				23				29	2		27	25	2		23
Ireland	785	92	638	55	840	53	686	101	897	80	722	95	795	80	674	41	649	50	560	39	514	43	450	21
Italy					1162				788				778			778	629			629	428			428
Latvia	600			600	580			580	558			558	433			433	321	10	4	307	289	54	57	178
Lithuania	107				84				90				58				71	71			60	60		
Luxembourg					14				21				19				18				16			16
Malta					3		1		4				22	4	18		20	4	16		35	3	32	
Netherlands					273				239	2	15		598	54	378	11	1786	195	1569	22	1715	154	1523	38
Norway	693	149	544		628	120	508		782	103	679		890	57	833		765	27	738		763	56	707	
Poland	508				364				262				199				128	128			104	104		
Portugal					64				53				67				16			16	26	1		25
Romania	1252	1133		119	928	854		74	710	710			586	586			486	486			411	410	1	
Slovakia	153	124	29		152	100	52		185	114	71		230	137	93		209	111	98		169	93	76	
Slovenia	56	25	31		40	16	24		54	17	37		43	14	29		42	7	35		69	25	44	
Spain					645				758				710				662				522			522
Sweden	1116	167	794	155	1407	199	1072	136	1481	176	1169	136	1481	112	1292	77	1571	123	1375	73	1333	89	1181	63
United Kingdom[e]	4026	457	2250	1319	5544	440	3192	1912	5639	293	3065	2281	6241	321	3932	1988	6036	361	4264	1411	7876	497	6589	790
Total[f]	**12642**	**3632**	**4802**	**2419**	**15971**	**3379**	**6038**	**2995**	**15397**	**2998**	**6229**	**3158**	**15661**	**2602**	**7764**	**3423**	**15669**	**2854**	**9085**	**2656**	**17025**	**2812**	**11557**	**2312**

Source: Country reports

[a] Due to the significant differences in surveillance systems between countries and over time, comparisons between individual Member States and over time should be interpreted with caution.

[b] Data defined by year according to date included in 'date of diagnosis' variable.

[c] Data submitted using previous record type version with no classification of data by disease status possible.

[d] Under-reporting of cases occurs in many countries and was estimated to be as high as 85% in France in 2010.

[e] Excludes data from Scotland.

[f] Data from several countries submitted using a mixture of record type versions, some of which did not permit classification of data by disease status. For this reason the overall totals for some countries and across Europe do not add up.

Table A2: Numbers of reported hepatitis C cases in EU and EEA countries[a], 2006–2011[b]

Country	2006				2007				2008				2009				2010				2011			
	All	Acute	Chronic	Unknown	All	Acute	Chronic	Unknown	All	Acute	Chronic	Unknown	All	Acute	Chronic	Unknown	All	Acute	Chronic	Unknown	All	Acute	Chronic	Unknown
Austria	227			227	300			300	271			271	277			277	243	234		9	789	171	490	128
Belgium[c]	739				434				43				34											
Bulgaria[c]	121				98				89				93				58				60			
Cyprus[c]					9				2				33				26				54			54
Czech Republic[d]					980			980	974			974	836			836	709			709	812			812
Denmark[d]	403	7	396		416	11	402		320	5	313	1	295	5	290		318	6	306	6	291	7	280	4
Estonia	201	57	144		185	40	145		200	61	139		227	66	155		276	35	241		204	16	188	
Finland	1168			1168	1163			1163	1144			1144	1047			1047	1138			1138	1135			1135
Germany	7447			7447	6855			6855	6218			6218	5412			5412	5276			5276	4902			4902
Greece	29			29	20			20	18			18	10			10	11			11	18	11	6	1
Hungary	29	29			22	22			33	33			31	31			11	11			40	40		
Iceland					81				93				103				59			59	72			72
Ireland	1195		7	1188	1545			1545	1501		1	1500	1243		4	1239	1238	5	63	1170	1248	11	94	1143
Italy					308				266			266	215			215	185			185	172			172
Latvia	1492			1492	1720			1720	1490			1490	1317			1317	1141			1141	1217			1217
Lithuania	62				46				43				47				41	41			43	43		
Luxembourg[c]					58				58				55				73				74			74
Malta					1				1				26			26	14			14	18			18
Netherlands[d]					63				48				50	20			30	30			65	65		
Norway	255			255	338			338	3334			3334	2292			2292	1784			1784	1676			1676
Poland[d]	2949				2753				2353				1939				2178				2188			
Portugal					57				46				85				39			39	45	2		43
Romania	133	35		98	166	55		111	101			101	66			66	76			76	80			80
Slovakia	277	30	247		331	38	293		332	26	306		318	14	304		237	32	205		296	21	275	
Slovenia	130	6	124		110	14	96		82	8	74		111	6	105		87	9	78		95	11	84	
Spain[c]					214				129															
Sweden	1824			1824	2047			2047	2474			2474	2173			2173	1931			1931	2106			2106
United Kingdom	8663		1214	7449	9494		1202	8292	10298		1234	9064	10708		1500	9208	9952		1502	8450	12196		1496	10700
Total[d]	**27344**	**164**	**2132**	**21177**	**29814**	**180**	**2138**	**23371**	**31961**	**133**	**2067**	**26855**	**29043**	**142**	**2358**	**24118**	**27131**	**403**	**2395**	**21998**	**29896**	**398**	**2913**	**24337**

Source: Country reports

[a] Due to the significant differences in surveillance systems between countries and over time, comparisons between individual Member States and over time should be interpreted with caution.

[b] Data defined by year according to date included in 'date of diagnosis' variable.

[c] Data submitted using previous record type version with no classification of data by disease status possible.

[d] Data from several countries submitted using a mixture of record type versions, some of which did not permit classification of data by disease status. For this reason the overall totals for some countries and across Europe do not add up.

Table A3: Number of reported hepatitis B cases per 100 000 in EU and EEA countries[a], 2006–2011[b]

Country	2006				2007				2008				2009				2010				2011				
	All	Acute	Chronic	Unknown	All	Acute	Chronic	Unknown	All	Acute	Chronic	Unknown	All	Acute	Chronic	Unknown	All	Acute	Chronic	Unknown	All	Acute	Chronic	Unknown	Overall age standardised rate
Austria	0.7			0.7	1.0			1.0	0.5	0.5		<0.1	0.5	0.5		<0.1	1.6	1.6		<0.1	6.8	1.0	4.8	1.1	6.8
Belgium	3.8				1.3				1.1				1.2												
Bulgaria	10.0				9.8				8.2				6.6				5.1				4.6				5.2
Cyprus					1.7				0.9				0.9				0.9				1.2			1.2	1.7
Czech Republic					3.0	3.0			2.9	2.9			2.4	2.4			2.3	2.1		0.2	1.8	1.8			2.2
Denmark	5.0	0.4	4.6		5.3	0.5	4.8	0.0	3.7	0.5	3.3	<0.1	3.3	0.4	2.8	<0.1	3.1	0.5	2.6		4.7	0.3	4.4	0.1	5.3
Estonia	4.4	3.3	1.0		5.8	3.4	2.4		5.6	4.0	1.6		4.5	2.0	2.5		4.3	1.8	2.5		3.1	1.1	2.0		3.8
Finland	5.5	0.7	4.8		4.4	0.4	4.0		6.0	0.9	5.1		6.8	0.6	6.1		5.3	0.7	4.7		4.6	0.4	4.2		5.0
France[c]	0.2	0.2			0.2	0.2			0.2	0.2			0.1	0.1			0.1	0.1			0.2	0.2			0.2
Germany	1.4	1.3		0.1	1.2	1.1		0.1	1.0	0.9		0.1	0.9	0.8		0.1	0.9	0.8		0.1	1.0	0.8		0.1	0.9
Greece	0.8	0.8			0.7	0.7		<0.1	0.7	0.7			0.5	0.4		<0.1	0.3	0.3		<0.1	0.3	0.3			0.4
Hungary	0.8	0.8			0.8	0.8			0.9	0.9			0.7	0.7			0.6	0.6			0.7	0.7			0.8
Iceland					15.3				19.3				7.2				9.1	0.6		8.5	7.9	0.6		7.2	9.8
Ireland	18.7	2.2	15.2	1.3	19.5	1.2	15.9	2.3	20.4	1.8	16.4	2.2	17.9	1.8	15.1	0.9	14.5	1.1	12.5	0.9	11.5	1.0	10.0	0.5	11.2
Italy					2.0				1.3				1.3			1.3	1.0			1.0	0.7			0.7	0.7
Latvia	26.1			26.1	25.4			25.4	24.6			24.6	19.1			19.1	14.3	0.4	0.2	13.7	13.0	2.4	2.6	8.0	13.4
Lithuania	3.1				2.5				2.7				1.7				2.1	2.1			1.8	1.8			2.2
Luxembourg					2.9				4.3				3.9				3.6				3.1			3.1	3.7
Malta					0.7		0.2		1.0		<0.1		5.3	1.0	4.4		4.8	1.0	3.9		8.4	0.7	7.7		9.5
Netherlands					1.7		0.0		1.5		0.1		3.6	0.3	2.3	0.1	10.8	1.2	9.5	0.1	10.3	0.9	9.1	0.2	10.7
Norway	14.9	3.2	11.7		13.4	2.6	10.9		16.5	2.2	14.3		18.5	1.2	17.4		15.7	0.6	15.2		15.5	1.1	14.4		16.0
Poland	1.3				1.0				0.7				0.5				0.3	0.3			0.3	0.3			0.3
Portugal					0.6				0.5				0.6				0.2			0.2	0.2	<0.1		0.2	0.3
Romania	5.8	5.2		0.6	4.3	4.0		0.3	3.3	3.3			2.7	2.7			2.3	2.3			1.9	1.9	<0.1		1.8
Slovakia	2.8	2.3	0.5		2.8	1.9	1.0		3.4	2.1	1.3		4.2	2.5	1.7		3.9	2.0	1.8		3.1	1.7	1.4		3.0
Slovenia	2.8	1.2	1.5		2.0	0.8	1.2		2.7	0.8	1.8		2.1	0.7	1.4		2.1	0.3	1.7		3.4	1.2	2.1		3.9
Spain					1.5				1.7				1.5				1.4				1.1			1.1	1.1
Sweden	12.3	1.8	8.8	1.7	15.4	2.2	11.8	1.5	16.1	1.9	12.7	1.5	16.0	1.2	14.0	0.8	16.8	1.3	14.7	0.8	14.2	0.9	12.5	0.7	16.0
United Kingdom[d]	7.2	0.8	4.0	2.3	9.9	0.8	5.7	3.4	10.0	0.5	5.5	4.1	11.1	0.6	7.0	3.5	10.7	0.6	7.6	2.5	14.0	0.9	11.7	1.4	13.1
Total	**3.6**	**1.3**	**5.1**	**1.2**	**3.2**	**1.2**	**6.4**	**1.6**	**3.1**	**0.9**	**5.6**	**1.9**	**3.1**	**0.8**	**7.0**	**1.3**	**3.2**	**0.8**	**8.0**	**1.0**	**3.5**	**0.7**	**8.0**	**0.8**	**3.6**

Source: Country reports and Eurostat data for all populations except UK (For the UK population Office for National Statistics mid-2008 population figures used across all years excluding the population for Scotland).

[a] Due to the significant differences in surveillance systems between countries and over time, comparisons between individual Member States and over time should be interpreted with caution.

[c] Under-reporting of cases occurs in many countries and was estimated to be as high as 85% in France in 2010.

[b] Data defined by year according to date included in 'date of diagnosis' variable.

[d] Excludes data from Scotland.

Table A4: Number of reported hepatitis C cases per 100 000 in EU and EEA countries[a], 2006–2011[b]

Country	2006				2007				2008				2009				2010				2011				
	All	Acute	Chronic	Unknown	All	Acute	Chronic	Unknown	All	Acute	Chronic	Unknown	All	Acute	Chronic	Unknown	All	Acute	Chronic	Unknown	All	Acute	Chronic	Unknown	Overall age standardised rate
Austria	2.8			2.8	3.6			3.6	3.3			3.3	3.3			3.3	2.9	2.8		0.1	9.4	2.0	5.8	1.5	9.3
Belgium	7.0				4.1				0.4				0.3												
Bulgaria	1.6				1.3				1.2				1.2				0.8				0.8				5.2
Cyprus					1.2				0.3				4.1				3.2				6.4			6.4	7.5
Czech Republic					9.5			9.5	9.4			9.4	8.0			8.0	6.7			6.7	7.7			7.7	7.5
Denmark	7.4	0.1	7.3		7.6	0.2	7.4		5.8	0.1	5.7	<0,1	5.4	0.1	5.3		5.7	0.1	5.5	0.1	5.2	0.1	5.0	0.1	6.4
Estonia	14.9	4.2	10.7		13.8	3.0	10.8		14.9	4.5	10.4		16.9	4.9	11.6		20.6	2.6	18.0		15.2	1.2	14.0		18.4
Finland	22.2			22.2	22.0			22.0	21.6			21.6	19.7			19.7	21.3			21.3	21.1			21.1	22.9
Germany	9.0			9.0	8.3			8.3	7.6			7.6	6.6			6.6	6.4			6.4	6.0			6.0	6.0
Greece	0.3			0.3	0.2			0.2	0.2			0.2	0.1			0.1	0.1			0.1	0.2	0.1	0.1	<0.1	0.2
Hungary	0.3	0.3			0.2	0.2			0.3	0.3			0.3	0.3			0.1	0.1			0.4	0.4			0.5
Iceland					26.3				29.5				32.3				18.6			18.6	22.6			22.6	33.4
Ireland	28.4		0.2	28.2	35.8			35.8	34.1		<0.1	34.1	27.9		0.1	27.8	27.7	0.1	1.4	26.2	27.9	0.2	2.1	25.5	27.1
Italy				0.0	0.5			0.0	0.4			0.4	0.4			0.4	0.3			0.3	0.3			0.3	0.3
Latvia	65.0			65.0	75.4			75.4	65.6			65.6	58.2			58.2	50.7			50.7	54.6			54.6	53.8
Lithuania	1.8				1.4				1.3				1.4				1.2	1.2			1.3	1.3			1.6
Luxembourg					12.2				12.0				11.1				14.5				14.5			14.5	17.0
Malta					0.2				0.2				6.3			6.3	3.4			3.4	4.3			4.3	5.3
Netherlands					0.4				0.3				0.3	0.1			0.2	0.2			0.4	0.4			0.5
Norway	5.5			5.5	7.2			7.2	70.4			70.4	47.8			47.8	36.7			36.7	34.1			34.1	35.0
Poland	7.7				7.2				6.2				5.1				5.7				5.7				
Portugal					0.5				0.4				0.8				0.4			0.4	0.4	<0.1		0.4	0.5
Romania	0.6	0.2		0.5	0.8	0.3		0.5	0.5			0.5	0.3			0.3	0.4			0.4	0.4			0.4	0.4
Slovakia	5.1	0.6	4.6		6.1	0.7	5.4		6.1	0.5	5.7		5.9	0.3	5.6		4.4	0.6	3.8		5.4	0.4	5.1		5.2
Slovenia	6.5	0.3	6.2		5.5	0.7	4.8		4.1	0.4	3.7		5.5	0.3	5.2		4.3	0.4	3.8		4.6	0.5	4.1		5.5
Spain					0.5				0.3																
Sweden	20.2			20.2	22.5			22.5	26.9			26.9	23.5			23.5	20.7			20.7	22.4			22.4	23.1
United Kingdom	14.3		2.0	12.3	15.6		2.0	13.6	16.8		2.0	14.8	17.4		2.4	14.9	16.0		2.4	13.6	19.5		2.4	17.1	20.2
Total	**9.3**	**0.4**	**2.7**	**10.5**	**6.8**	**0.4**	**2.9**	**10.6**	**7.3**	**0.2**	**2.3**	**9.4**	**7.4**	**0.3**	**2.9**	**8.6**	**7.1**	**0.7**	**2.7**	**6.4**	**7.8**	**0.5**	**2.9**	**8.1**	**7.8**

Source: Country reports and Eurostat data for all populations.

[a] Due to the significant differences in surveillance systems between countries and over time, comparisons between individual Member States and over time should be interpreted with caution.

[b] Data defined by year according to date included in 'date of diagnosis' variable.

Table A5: Proportion[a] (%) of cases of hepatitis B by disease status and transmission category in EU and EEA countries[b] in 2011

Countries	Disease status	Blood and blood products	Haemo-dialysis	Heterosexual transmission	Household	Injecting drug use	MSM	Mother to child transmission	Needlestick on occupational	Nosocomial	Other	Needlestick & other occupational exposure	Sexual transmission (not specified)	Organ and tissues	Unknown
Austria	Acute	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
	Chronic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
	Unknown	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Cyprus	Acute														
	Chronic														
	Unknown	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Czech Republic	Acute	0.0	0.0	0.0	0.0	28.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	71.7
	Chronic														
	Unknown														
Denmark	Acute	0.0	0.0	58.8	5.9	5.9	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.5
	Chronic	0.0	0.0	3.7	1.6	5.3	1.6	72.0	0.4	3.3	0.4	0.0	0.0	0.0	11.5
	Unknown	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Estonia	Acute	0.0	0.0	13.3	0.0	33.3	0.0	0.0	0.0	6.7	0.0	0.0	0.0	0.0	46.7
	Chronic	0.0	0.0	14.8	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.9
	Unknown														
Finland	Acute	0.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	37.5	0.0	58.3
	Chronic	0.9	0.0	0.0	0.0	0.4	0.0	4.0	0.0	0.0	0.0	0.0	5.8	0.0	88.8
	Unknown														
France[c]	Acute	0.0	0.0	5.9	4.0	1.0	8.9	1.0	1.0	5.0	7.9	3.0	1.0	0.0	61.4
	Chronic														
	Unknown														
Germany	Acute	0.1	0.7	3.8	2.9	1.7	2.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	88.2
	Chronic														
	Unknown	0.0	0.0	0.0	1.0	2.9	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	94.3
Greece	Acute	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
	Chronic														
	Unknown														
Hungary	Acute	0.0	0.0	0.0	1.5	7.7	0.0	0.0	1.5	0.0	0.0	0.0	15.4	0.0	73.8
	Chronic														
	Unknown														
Iceland	Acute	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
	Chronic														
	Unknown	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Ireland	Acute	0.0	0.0	23.3	0.0	0.0	23.3	0.0	2.3	2.3	4.7	0.0	27.9	0.0	16.3
	Chronic	1.1	0.0	0.9	0.4	0.2	2.0	0.7	0.7	0.4	30.9	0.0	2.0	0.0	60.7
	Unknown	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	9.5	0.0	4.8	0.0	81.0
Italy	Acute	0.5	0.2	16.6	7.2	0.5	4.1	0.0	14.9	15.2	11.1	0.0	2.7	0.0	27.0
	Chronic														
	Unknown														
Latvia	Acute	1.9	0.0	0.0	3.7	18.5	0.0	0.0	5.6	14.8	0.0	0.0	31.5	0.0	24.1
	Chronic	3.5	0.0	0.0	0.0	1.8	0.0	0.0	1.8	14.0	0.0	0.0	19.3	0.0	59.6
	Unknown	0.6	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.6	7.9	0.0	90.4
Lithuania	Acute	0.0	0.0	28.3	0.0	13.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	58.3
	Chronic														
	Unknown														
Luxembourg	Acute														
	Chronic														
	Unknown	0.0	0.0	0.0	0.0	0.0	0.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0	93.8
Malta	Acute	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.7
	Chronic	3.1	0.0	6.3	0.0	0.0	0.0	3.1	0.0	0.0	3.1	0.0	0.0	0.0	84.4
	Unknown														
Netherlands	Acute	0.0	0.0	31.8	0.0	0.0	31.2	0.0	0.0	0.0	0.0	0.6	0.6	0.0	35.7
	Chronic	0.0	0.0	3.0	0.0	0.2	1.8	59.8	0.0	0.0	0.0	0.1	0.0	0.0	35.2
	Unknown	0.0	0.0	10.5	0.0	0.0	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	78.9
Norway	Acute	0.0	0.0	39.3	0.0	32.1	7.1	0.0	1.8	1.8	0.0	0.0	3.6	0.0	14.3
	Chronic	1.4	0.0	0.1	0.0	3.0	0.4	7.4	0.4	0.1	0.0	0.0	5.7	0.0	81.5
	Unknown														

Countries	Disease status	Blood and blood products	Haemo-dialysis	Heterosexual transmission	Household	Injecting drug use	MSM	Mother to child transmission	On occupational	Nosocomial	Other	Needlestick & other occupational exposure	Sexual transmission (not specified)	Organ and tissues	Unknown
Poland	Acute	1.9	2.9	1.0	6.7	6.7	1.0	0.0	0.0	49.0	1.0	0.0	4.8	0.0	25.0
	Chronic														
	Unknown														
Portugal	Acute	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
	Chronic														
	Unknown	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0	84.0
Romania	Acute	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.0	0.0	0.0	8.5	0.0	69.5
	Chronic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0
	Unknown														
Slovakia	Acute	1.1	0.0	6.5	2.2	7.5	0.0	0.0	2.2	37.6	0.0	0.0	0.0	0.0	43.0
	Chronic	5.3	0.0	1.3	2.6	7.9	0.0	0.0	13.2	23.7	0.0	1.3	0.0	0.0	44.7
	Unknown														
Slovenia	Acute	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
	Chronic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
	Unknown														
Sweden	Acute	0.0	0.0	44.9	3.4	20.2	9.0	1.1	2.2	2.2	2.2	0.0	0.0	0.0	14.6
	Chronic	1.8	0.0	3.9	0.5	0.9	0.1	8.7	0.2	1.4	2.8	0.3	0.0	0.0	79.5
	Unknown	0.0	0.0	3.2	0.0	0.0	0.0	6.3	0.0	1.6	0.0	3.2	0.0	0.0	85.7
United Kingdom[d]	Acute	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
	Chronic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
	Unknown	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0

Source: Country reports (Countries included if able to provide data on transmission)

[a] Calculated as % of total number of cases not recorded as unknown.

[b] Due to the significant differences in surveillance systems between countries and over time, comparisons between individual Member States and over time should be interpreted with caution.

[c] Under-reporting was estimated to be 85% in France for acute hepatitis B cases in 2010.

[d] Data excludes Scotland

Table A6: Proportion[a] (%) of cases of hepatitis C by disease status and transmission category in EU and EEA countries[b] in 2011

Countries	Disease status	Blood and blood products	Haemo-dialysis	Heterosexual transmission	Household	Injecting drug use	MSM	Mother to child transmission	Needlestick & other occupational exposure	Nosocomial	Other	Organ and tissues	Sexual transmission (not specified)	Unknown
Austria	Acute	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
	Chronic	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	100.0
	Unknown	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Cyprus	Acute													
	Chronic													
	Unknown	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Czech Republic	Acute													
	Chronic													
	Unknown	0.0	0.0	0.0	0.0	62.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.7
Denmark	Acute	0.0	0.0	0.0	0.0	28.6	57.1	0.0	0.0	0.0	0.0	0.0	0.0	14.3
	Chronic	0.0	0.0	3.6	0.7	68.9	0.0	0.7	1.4	6.4	0.4	0.4	0.0	17.5
	Unknown	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Estonia	Acute	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	75.0
	Chronic	0.0	0.0	12.8	0.0	36.2	0.0	0.0	1.6	0.0	0.0	0.0	0.0	49.5
	Unknown													
France	Acute													
	Chronic													
	Unknown													
Finland	Acute													
	Chronic													
	Unknown	0.6	0.0	0.0	0.0	54.2	0.3	1.0	0.0	0.0	0.0	0.0	7.5	0.0	36.5
Germany	Acute													
	Chronic													
	Unknown	7.8	0.4	0.0	0.0	22.4	1.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	68.3
Greece	Acute	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
	Chronic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
	Unknown	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Hungary	Acute	0.0	0.0	0.0	0.0	35.0	0.0	0.0	5.0	0.0	0.0	0.0	5.0	0.0	55.0
	Chronic													
	Unknown													
Iceland	Acute													
	Chronic													
	Unknown	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Ireland	Acute	0.0	9.1	0.0	0.0	27.3	0.0	0.0	9.1	0.0	9.1	0.0	27.3	0.0	18.2
	Chronic	12.8	0.0	0.0	0.0	46.8	0.0	2.1	0.0	1.1	16.0	1.1	4.3	0.0	16.0
	Unknown	0.8	0.0	0.0	0.0	50.6	0.0	0.5	0.4	0.3	2.7	0.3	1.6	0.0	43.2
Italy	Acute	0.0	1.0	1.9	11.4	23.8	1.0	0.0	8.6	30.5	2.9	0.0	0.0	0.0	19.0
	Chronic													
	Unknown													
Latvia	Acute													
	Chronic													
	Unknown	6.4	0.8	0.0	0.3	16.1	0.1	0.4	2.7	3.5	0.0	0.8	11.1	0.0	61.4
Lithuania	Acute	0.0	0.0	20.9	0.0	9.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	69.8
	Chronic													
	Unknown													
Luxembourg	Acute													
	Chronic													
	Unknown	4.1	0.0	0.0	0.0	64.9	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	29.7
Malta	Acute													
	Chronic													
	Unknown	11.1	0.0	0.0	0.0	72.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7
Netherlands	Acute	0.0	0.0	4.6	0.0	1.5	67.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.2
	Chronic													
	Unknown													
Norway	Acute													
	Chronic													
	Unknown	2.2	0.0	0.1	0.0	37.0	0.1	0.4	0.4	0.0	0.0	0.0	2.6	0.0	57.7

Countries	Disease status	Blood and blood products	Haemo-dialysis	Heterosexual transmission	Household	Injecting drug use	MSM	Mother to child transmission	Occupational exposure	Nosocomial	Other	Needlestick & other occupational exposure	Sexual transmission (not specified)	Organ and tissues	Unknown
Poland	Acute														
	Chronic														
	Unknown														
Portugal	Acute	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Chronic														
	Unknown	0.0	0.0	0.0	0.0	60.5	0.0	0.0	0.0	0.0	0.0	0.0	4.7	0.0	34.9
Romania	Acute														
	Chronic														
	Unknown	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.3	0.0	0.0	2.5	0.0	51.3
Slovakia	Acute	4.8	0.0	4.8	0.0	57.1	0.0	0.0	0.0	9.5	0.0	0.0	0.0	0.0	23.8
	Chronic	5.8	0.0	0.0	0.4	40.7	0.0	0.0	6.9	16.0	0.0	1.1	1.1	0.0	28.0
	Unknown														
Slovenia	Acute	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
	Chronic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
	Unknown														
Sweden	Acute														
	Chronic														
	Unknown	4.8	0.0	4.3	0.2	46.9	0.6	0.3	1.6	1.4	1.2	0.4	0.0	0.0	39.9
United Kingdom	Acute														
	Chronic	0.6	0.0	0.0	0.0	47.8	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	49.9
	Unknown	0.0	0.0	0.0	0.0	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	95.5

Source: Country reports (Countries included if able to provide data on transmission)

[a] Calculated as % of total number of cases not recorded as unknown.

[b] Due to the significant differences in surveillance systems between countries and over time, comparisons between individual Member States and over time should be interpreted with caution.

Table A7: Proportion[a] (%) of cases of hepatitis B by transmission category in EU and EEA countries between 2006 and 2011

Transmission	2006			2007			2008			2009			2010			2011		
	Acute	Chronic	Unknown	Acute	Chronic	Unknown	Acute	Chronic	Unknown	Acute	Chronic	Unknown	Acute	Chronic	Unknown	Acute	Chronic	Unknown
Blood and blood products	0.5	4.0	1.2	0.4	4.3	1.2	0.1	4.5	3.0	0.4	4.5	3.6	0.2	2.4	5.3	0.6	2.4	2.0
Haemodialysis	0.8	0.0	1.8	0.4	0.0	4.3	0.3	0.0	0.7	0.4	0.1	0.0	0.3	0.1	0.0	0.8	0.0	0.0
Heterosexual transmission	31.1	9.9	4.1	27.1	8.1	3.9	27.4	6.9	5.0	26.7	9.9	1.8	27.7	6.7	4.7	23.4	6.1	18.4
Household	7.5	4.6	5.3	6.8	2.9	7.8	5.6	2.6	7.0	7.1	2.6	6.5	5.6	1.6	7.6	6.3	0.8	2.0
Injecting drug user	18.8	13.1	17.1	23.6	10.9	20.8	25.1	10.3	19.7	18.9	6.1	21.4	17.0	4.6	20.5	13.4	3.5	8.2
Men who have sex with men/ homosexual or bisexual male	8.5	2.1	2.4	8.0	2.0	0.4	9.1	1.6	1.0	12.8	2.5	3.0	12.9	2.5	3.5	10.3	2.4	12.2
Mother-to-child transmission	1.0	41.2	6.5	0.8	34.5	1.2	0.4	27.4	2.0	0.2	40.0	1.8	0.5	63.5	2.9	0.4	67.3	10.2
Non-occupation	7.9	0.9	2.4	8.8	0.3	3.9	8.6	1.1	4.3	9.6	0.8	2.4	6.1	0.6	8.2	6.6	1.1	0.0
Nosocomial (includes hospital, nursing home, psychiatric institutions)	11.7	3.0	29.4	12.5	4.4	20.8	10.2	4.3	19.7	9.9	4.7	16.1	16.1	1.8	16.4	23.2	2.9	2.0
Other	6.5	14.1	2.4	6.7	27.4	5.5	9.1	37.1	10.4	9.0	22.4	0.6	9.4	12.0	1.2	5.3	9.3	4.1
Needle-stick and other occupational exposure (includes healthcare workers and needle stick injuries)	0.6	3.3	1.8	0.4	3.5	2.7	0.2	1.1	4.0	0.3	0.4	0.6	0.5	0.3	0.6	0.4	0.3	6.1
Sexual transmission (not specified)	5.1	3.9	25.9	4.3	1.8	27.5	4.0	3.1	23.1	4.6	6.0	42.3	3.8	3.8	29.2	9.3	3.9	34.7
Organ and tissues		0.0			0.0			0.0			0.1			0.1			0.0	
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: Country reports (Data included from the following countries: Czech Republic, Denmark, Estonia, Finland, France**, Germany, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Sweden, United Kingdom (excluding Scotland)).

[a] Calculated as % of total number of cases not recorded as unknown.

Table A8: Proportion[a] (%) of cases of hepatitis C by transmission category in EU and EEA countries between 2006 and 2011

Transmission	2006			2007			2008			2009			2010			2011		
	Acute	Chronic	Unknown	Acute	Chronic	Unknown	Acute	Chronic	Unknown	Acute	Chronic	Unknown	Acute	Chronic	Unknown	Acute	Chronic	Unknown
Blood and blood products	0.0	1.7	14.6	1.2	1.4	12.2	0.0	1.8	11.7	0.0	1.4	8.9	1.3	1.4	9.4	0.5	2.7	9.4
Haemodialysis	0.0	0.0	0.8	0.0	0.0	0.5	0.0	0.0	0.4	0.7	0.0	0.3	0.0	0.0	0.6	1.0	0.0	0.4
Heterosexual transmission	8.7	1.2	1.4	5.2	1.0	1.2	3.7	0.7	1.1	6.5	1.2	1.4	1.9	1.2	1.1	7.5	2.5	1.4
Household	3.6	0.0	0.1	5.2	0.1	0.3	8.8	0.1	0.1	8.6	0.0	0.2	4.5	0.1	0.1	6.0	0.2	0.1
Injecting drug user	40.6	81.5	77.7	36.4	77.2	76.5	35.3	73.7	76.7	32.4	79.5	78.6	31.6	82.7	77.8	33.3	83.7	78.4
Men who have sex with men/ homosexual or bisexual male	0.7	0.5	0.7	1.2	0.3	0.6	2.2	0.1	0.9	9.4	0.2	0.9	15.5	0.1	1.1	24.4	0.0	1.3
Mother-to-child transmission	0.0	0.2	0.7	0.6	0.6	0.6	0.0	0.3	0.6	0.0	0.4	0.6	0.0	0.4	0.8	0.0	0.3	0.6
Non-occupation	8.7	1.1	0.4	7.5	0.4	0.7	9.6	0.6	1.0	7.2	0.5	1.1	6.5	0.9	1.4	6.0	1.9	1.2
Nosocomial (includes hospital, nursing home, psychiatric institutions)	23.9	2.9	1.0	31.8	3.4	2.5	24.3	2.4	2.6	23.7	1.0	2.5	21.3	1.6	3.0	16.9	4.7	1.7
Other	8.7	10.8	0.2	5.8	15.4	1.0	5.2	20.3	0.6	5.8	15.8	1.4	16.1	11.0	0.9	2.0	3.0	0.9
Needle-stick and other occupational exposure (includes healthcare workers and needle stick injuries)	2.9	0.1	0.2	1.2	0.1	0.5	1.5	0.1	0.3	0.0	0.0	0.3	1.3	0.4	0.4	0.0	0.4	0.3
Sexual transmission (not specified)	2.2	0.1	2.2	4.1	0.0	3.5	9.6	0.0	4.0	5.8	0.1	3.9	0.0	0.2	3.4	2.5	0.5	4.3
Organ and tissues	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: Country reports (Data included from the following countries: Czech Republic, Denmark, Estonia, Finland, Germany, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Sweden, United Kingdom).

[a] Calculated as % of total number of cases not recorded as unknown.

Table A9: Number and proportion of cases of hepatitis B cases classified as 'imported' by disease status in EU and EEA countries in 2011

Country	Acute			Chronic			Unknown		
	Number of imported cases	Total number of cases with valid information	% Imported	Number of imported cases	Total number of cases with valid information	% Imported	Number of imported cases	Total number of cases with valid information	% Imported
Austria	0	75	0.0	27	380	7.1	1	72	1.4
Cyprus									
Czech Republic	0	191	0.0						
Denmark	1	16	6.3	207	236	87.7	4	4	100.0
Estonia	1	15	6.7	0	27	0.0			
Finland	9	13	69.2	122	129	94.6			
France[a]	10	62	16.1						
Germany	0	688	0.0				0	105	0.0
Greece	0	38	0.0						
Hungary	0	65	0.0						
Iceland									
Ireland	13	37	35.1	117	125	93.6	2	3	66.7
Italy									
Latvia	2	54	3.7						
Lithuania	1	60	1.7						
Luxembourg									
Malta	2	3	66.7	18	32	56.3			
Netherlands	25	146	17.1	1201	1378	87.2	6	18	33.3
Norway	27	54	50.0	668	698	95.7			
Poland	0	102	0.0						
Portugal									
Romania									
Slovakia	1	93	1.1	1	76	1.3			
Slovenia									
Spain							0	520	0.0
Sweden	22	86	25.6	983	1023	96.1	25	27	92.6
United Kingdom[b]				11	11	100.0			
Totalf	**114**	**1798**	**6.3**	**3355**	**4115**	**81.5**	**38**	**749**	**5.1**

[a] Under-reporting was estimated to be 85% in France for acute hepatitis B cases in 2010.
[b] Excluding Scotland.

Table A10: Number and proportion of cases of hepatitis C cases classified as 'imported' in EU and EEA countries in 2011

Country	Acute			Chronic			Unknown		
	Number of imported cases	Total number of cases with valid information	% Imported	Number of imported cases	Total number of cases with valid information	% Imported	Number of imported cases	Total number of cases with valid information	% Imported
Austria	7	71	9.9	9	151	6	0	5	0
Cyprus									
Czech Republic							0	812	0.0
Denmark	2	6	33.3	58	262	22.1	4	4	100.0
Estonia	0	16	0.0	0	188	0.0			
Finland							97	411	23.6
Germany							8	4902	0.2
Greece	0	11	0.0	0	6	0.0	0	1	0.0
Hungary	0	40	0.0						
Iceland									
Ireland	0	5	0.0	49	79	62.0	37	72	51.4
Italy									
Latvia							8	1217	0.7
Lithuania	0	43	0.0						
Luxembourg									
Malta							3	18	16.7
Netherlands	6	55	10.9						
Norway							227	1670	13.6
Poland									
Portugal									
Romania									
Slovakia	0	21	0.0	25	275	9.1			
Slovenia									
Spain									
Sweden							307	1444	21.3
United Kingdom				153	319	48.0	6	7	85.7
Total	**15**	**268**	**5.6**	**294**	**1280**	**23.0**	**697**	**10563**	**6.6**

Table A11: Differences between reporting country and the country of birth or nationality of hepatitis B cases, in EU/EEA countries, 2011

Country	Acute		Chronic		Unknown	
	Proportion of cases where reporting country ≠ Country of birth/ nationality (%)	Proportion of cases where reporting country = Country of birth/ nationality (%)	Proportion of cases where reporting country ≠ Country of birth/ nationality (%)	Proportion of cases where reporting country = Country of birth/ nationality (%)	Proportion of cases where reporting country ≠ Country of birth/ nationality (%)	Proportion of cases where reporting country = Country of birth/ nationality (%)
Austria	0.0	0.0	0.0	0.0	0.0	0.0
Cyprus					60.0	40.0
Czech Republic	0.0	100.0				
Germany	100.0	0.0			100.0	0.0
Denmark	11.8	88.2	81.9	17.3	50.0	50.0
Estonia	0.0	100.0	0.0	100.0		
Finland	16.7	70.8	64.7	12.5		
France[a]	5.9	23.8				
Greece	100.0	0.0				
Hungary	1.5	98.5				
Ireland	27.9	65.1	34.4	3.3	28.6	4.8
Iceland	0.0	0.0			0.0	0.0
Italy	18.1	81.2				
Lithuania	0.0	100.0				
Latvia	0.0	0.0	0.0	0.0	0.0	0.0
Luxembourg					100.0	0.0
Malta	33.3	66.7	71.9	28.1		
Netherlands	12.3	83.8	83.5	11.4	26.3	34.2
Norway	0.0	92.9	0.0	5.0		
Poland	2.9	97.1				
Portugal	0.0	0.0			4.0	4.0
Romania	0.0	0.0	0.0	0.0		0.0
Slovenia	0.0	0.0	0.0	0.0	12.7	1.6
Slovakia	100.0	0.0	100.0	0.0		
Spain					0.0	0.0
Sweden	20.2	34.8	59.9	2.5	12.7	1.6
United Kingdom	0.0	0.0	0.0	0.0	0.0	0.0
Total	**35.4**	**26.9**	**22.0**	**3.1**	**7.8**	**1.1**

Source: Country reports. Cases were excluded from the analysis if information on country of birth or country of nationality were missing.
[a] Under-reporting was estimated to be 85% in France for acute hepatitis B cases in 2010.

Table A12: Differences between reporting country and the country of birth or nationality of hepatitis C cases, in EU/EEA countries, 2011

Country	Acute		Chronic		Unknown	
	Proportion of cases where reporting country ≠ Country of birth/ nationality (%)	Proportion of cases where reporting country = Country of birth/ nationality (%)	Proportion of cases where reporting country ≠ Country of birth/ nationality (%)	Proportion of cases where reporting country = Country of birth/ nationality (%)	Proportion of cases where reporting country ≠ Country of birth/ nationality (%)	Proportion of cases where reporting country = Country of birth/ nationality (%)
Austria	0.0	0.0	0.0	0.0	0.0	0.0
Cyprus					68.5	11.1
Czech Republic					0.0	100.0
Germany					100.0	0.0
Denmark	14.3	85.7	21.1	78.9	25.0	75.0
Estonia	0.0	100.0	0.0	100.0		
Finland					14.4	81.4
Greece	100.0	0.0	100.0	0.0	100.0	0.0
Hungary	0.0	100.0				
Ireland	27.3	63.6	46.8	40.4	4.8	4.1
Iceland					0.0	0.0
Italy	9.5	90.5				
Lithuania	0.0	100.0				
Latvia					0.0	0.0
Luxembourg					100.0	0.0
Malta					22.2	77.8
Netherlands	16.9	66.2				
Norway					0.0	75.2
Poland						
Portugal	0.0	0.0			0.0	0.0
Romania					0.0	0.0
Slovenia			0.0	0.0		
Slovakia	0.0	0.0	100.0	0.0		
Spain	100.0	0.0				
Sweden					17.8	37.7
United Kingdom			0.0	0.0	0.0	0.0
Total	**10.5**	**45.9**	**12.1**	**14.1**	**26.4**	**12.5**

Source: Country reports. Cases were excluded from the analysis if information on country of birth or country of nationality were missing.

Table A13: Number of deaths of hepatitis B cases in EU and EEA countries in 2011[a]

Country	Number of cases with valid data on outcome	Number of deaths
Austria	574	5
Cyprus	10	0
Czech Republic	191	1
Denmark	70	1
Estonia	42	0
Finland	0	0
France[b]	101	0
Germany	791	7
Greece	38	1
Hungary	65	4
Iceland	0	0
Ireland	34	0
Italy	399	6
Latvia	289	2
Lithuania	30	1
Luxembourg	0	0
Malta	35	2
Netherlands	1695	5
Norway	23	2
Poland	104	3
Portugal	23	2
Romania	411	3
Slovakia	169	3
Slovenia	69	1
Spain	0	0
Sweden	9	9
United Kingdom	0	0
Total	**5172**	**58**

[a] Bulgaria and Poland excluded as data submitted in aggregate format which was not suitable for analysis
[b] Under-reporting was estimated to be 85% in France for acute hepatitis B cases in 2010.

Table A14: Number of deaths of hepatitis C cases in EU and EEA countries in 2011[a]

Country	Number of cases with valid data on outcome	Number of deaths
Austria	789	1
Cyprus	54	0
Czech Republic	812	2
Denmark	48	5
Estonia	204	0
Finland	0	0
Germany	4810	3
Greece	18	1
Hungary	40	1
Iceland	0	0
Ireland	14	0
Italy	103	1
Latvia	1217	0
Lithuania	12	0
Luxembourg	0	0
Malta	18	0
Netherlands	65	0
Norway	1	0
Portugal	42	0
Romania	80	2
Slovakia	296	0
Slovenia	95	1
Sweden	74	4
United Kingdom	1696	55
Total	**10488**	**76**

[a] Bulgaria and Poland excluded as data submitted in aggregate format which was not suitable for analysis

Table A15: Number of reported hepatitis C cases per 100 000 population by disease status and gender in EU/EEA countries, 2006–2011

Year	All cases		Acute cases		Chronic cases		Unknown	
	Male	Female	Male	Female	Male	Female	Male	Female
2006	12.2	6.5	0.5	0.4	3.9	1.8	12.2	6.6
2007	10.7	5.7	0.8	0.7	3.8	1.9	13.7	7.4
2008	11.7	6.2	0.7	0.4	3.7	1.8	15.5	8.4
2009	11.6	6.1	0.8	0.4	4.3	1.9	14.2	7.4
2010	10.9	5.6	2.1	1.3	4.4	1.9	13.1	6.6
2011	10.7	5.4	2.3	1.3	5.6	2.7	14.9	7.5

Source: Country reports: Austria, Czech Republic, Denmark, Estonia, Finland, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Romania, Slovakia, Slovenia, Sweden, United Kingdom.

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European Centre for Disease Prevention and Control (ECDC)

Postal address:
ECDC, 171 83 Stockholm, Sweden

Visiting address:
Tomtebodavägen 11A, Solna, Sweden

Phone +46 (0)8 58 60 1000
Fax +46 (0)8 58 60 1001
www.ecdc.europa.eu

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